Welcome

Thank you for purchasing a Sony VAIO® computer! Your new computer is a superb blend of high technology and easy-to-use functionality. The information provided here is designed to help you to become familiar with the hardware and software programs included with your computer.

- View the Electronic Flyer, which provides updates and supplemental information about your computer.
- Go to the Sony online support Web site, to view the VAIO® Computer Specifications, which lists your computer's hardware specifications and preinstalled software information.
- For information about the Sony software preinstalled on your computer, click **Start** in the Windows® taskbar, and then click **Welcome to VAIO life**.

Getting Started

Congratulations on your purchase of the Sony VAIO® computer! Your new, high-performance, multimedia computer combines state-of-the-art computer functionality with the latest audio, video and information technology features.

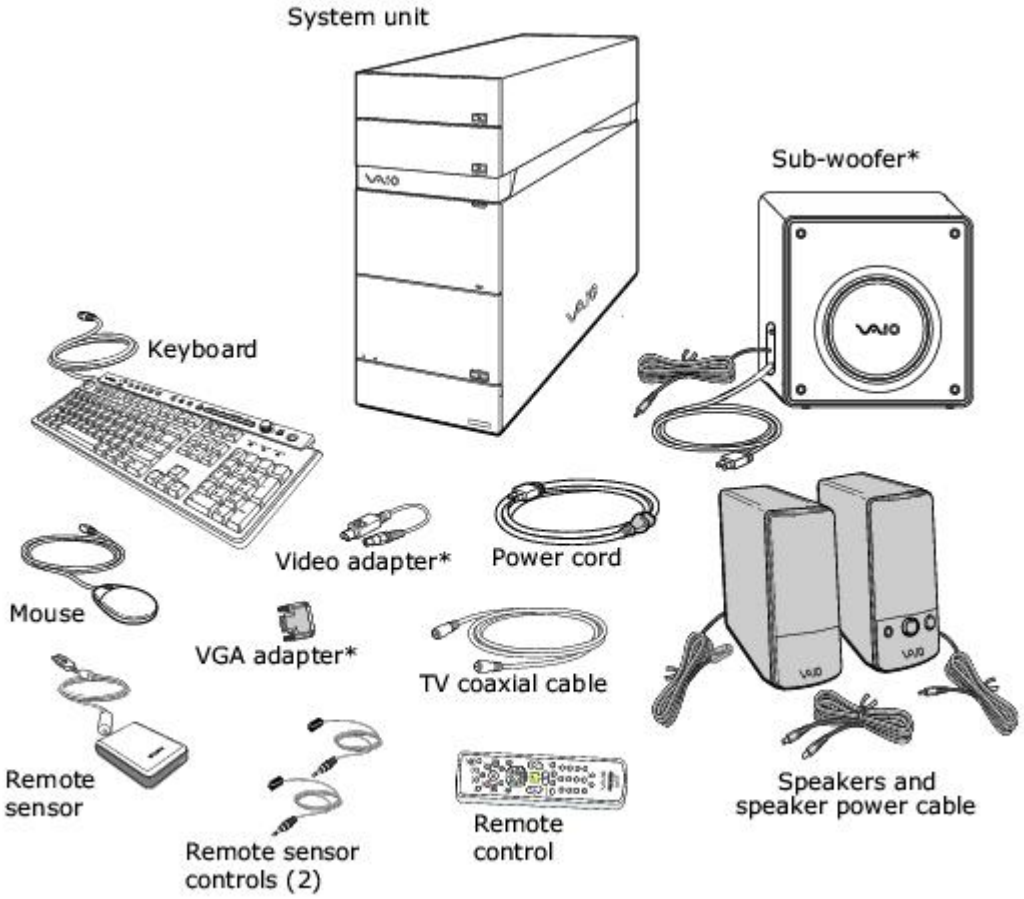
- Unpacking Your Computer
- Planning an Ergonomic Work Space

Unpacking Your Computer

Your computer may not be supplied with all of the accessories shown, depending on the computer configuration purchased. For details on the accessories supplied with your computer, see the online *Specifications* sheet.

Your VAIO® computer is not supplied with System or Application Recovery CDs. Use the VAIO Recovery Wizard utility to recover your computer's operating system and preinstalled software.

Computer and supplied accessories



*This accessory is only available with certain computer models.

Manuals

- **VAIO® Computer Quick Start** — Provides basic information on setting up and registering your computer. The Quick Start also provides resources for technical support, safety guidelines and owner information.
- ***About RAID Systems* —** Contains an overview of RAID-0 and RAID-1 levels, along with basic information about RAID configuration. This guide is available only with configure-to-order (CTO) computers that are shipped as RAID-0 or RAID-ready.

Online Documentation

- ***VAIO® Computer User Guide*** — Contains features and specifications of your computer. It also includes information on the Microsoft® Windows® XP Media Center Edition operating system, the software programs included with your computer, and solving common problems.

  To access the online User Guide:

  1. Click **Start** in the Windows taskbar, then click **Help and Support**.
  2. From the **VAIO Help and Support Center** menu, click **VAIO User Guide**.

- ***Specifications*** — The online specifications sheet describes the hardware and software configuration of your VAIO computer.

  To view the online specifications sheet:

  1. Connect to the Internet.

2. Go to the Sony online support Web site at *http://www.sony.com/pcsupport*.

3. Click the **Documentation** button and follow the on-screen instructions to locate your model's specifications sheet.

- ***VAIO Software*** — Provides specific information on certain preinstalled software on your computer.

To access this online software information:

1. Click **Start** in the Windows® taskbar.

2. Click **Welcome to VAIO life**.

Hard Disk Drive Recovery

Your computer is equipped with the VAIO Recovery Wizard utility program that recovers your computer's operating system and preinstalled software.

For online information about hard disk drive recovery:

1. Click **Start** in the Windows® taskbar, then click **Help and Support**.

2. From the **VAIO Help And Support Center**, click **VAIO Recovery Options**.

You can create a VAIO Recovery Media Kit using CD-R, single layer DVD+R, or single layer DVD-R media on VAIO computers equipped with the appropriate optical drive (a CD-RW, DVD-RW, or DVD±RW drive).

DVD+RW, DVD-RW, double layer DVD+R, and double layer DVD-R media (when it becomes available) cannot be used to create a VAIO Recovery Media Kit.

Other

A software library, containing the Microsoft® software and Sony® end-user license agreements.

Planning an Ergonomic Work Space

Before you set up your new computer, find the best location for your new computer and plan your work space. There are several ergonomic factors to consider when you arrange your work space:

- **Stable work surface —** Use a stable work surface large enough to support the computer and other peripheral equipment.

- **Ventilation —** Leave at least eight inches of space on the left and back sides of your computer to enable proper ventilation.

- **Placement of the keyboard, mouse, and other input devices —** Place your keyboard, mouse, and other input devices so that your arms and hands are in a relaxed, comfortable position. The keyboard should be directly in front of you. Adjust the level of the keyboard so that your lower arms are parallel to the floor. Keep your wrists in a relaxed position when you are using the keyboard — not angled up or down. Use the palmrest briefly, for resting. While typing, never use the palmrest or rest your hands on the table. Position the mouse at the same level as the keyboard. Hold the mouse with a relaxed hand, and use your whole arm to move it. Take breaks during sessions with your computer. Excessive use of the mouse or a joystick may strain muscles or tendons.

- **Furniture and posture —** Sit in a chair with good back support and armrests. Adjust the level of the chair so your feet are flat on the floor. A footrest may make you more comfortable. Sit with relaxed, upright posture — avoid slouching forward or leaning far backward.

- **Viewing angle of the display —** Position the display 18 to 26 inches directly in front of you, with the top of the screen at or a little below eye level. Use the display's tilting feature to find the best position. You can reduce eye strain and muscle fatigue by placing the display in the proper position.

- **Lighting —** Choose a location where windows and lights do not create glare and reflection on the display. Use indirect lighting to avoid bright spots on the display. You can also purchase accessories for your display that help reduce glare. Proper lighting adds to your comfort and work effectiveness.

Locating Controls And Ports

This section is intended to familiarize you with the controls, ports and jacks on your computer and supplied accessories. Your computer may not be equipped with all of these hardware features or accessories. The location of the controls, ports, and jacks may vary from the illustrations shown in this section. To view the specific connection capabilities for your computer, see the online *Specifications* sheet.

- About the Front Panel
- About the Back Panel
- About the Sub-woofer
- About the Keyboard
- About the Remote Control
- About the i.LINK Port

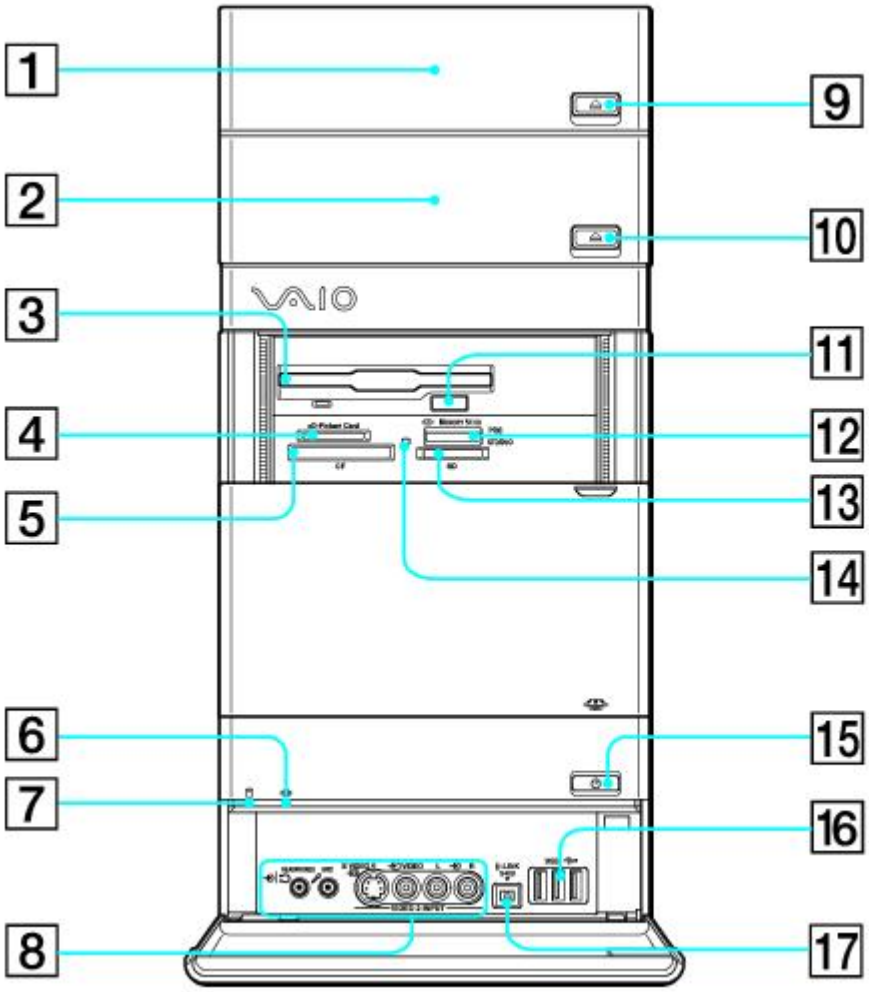
About the Front Panel

The front panel of your VAIO® Computer enables access to drives, memory card readers, ports and jacks that enable you to connect compatible peripheral devices.

Front panel

Your computer may not be equipped with all of these hardware features or accessories. The location of the controls, ports, and jacks may vary from the illustrations shown in this section.

Front panel



1 Optical drive 1

See the online *Specifications* sheet for optical drive information.

2 Optical drive 2

See the online *Specifications* sheet for optical drive information.

3 Floppy disk drive

Reads and writes data from and to a 3.5-inch floppy disk.

4 xD-Picture Card memory card reader

Reads and writes data from and to xD-Picture Card media.

5 CompactFlash® and Microdrive memory card reader

Reads and writes data from and to CompactFlash and Microdrive media.

6 Optical drive access indicator

Light is amber while reading and writing data from and to the optical drives.

7 Hard disk drive access indicator

Light is amber while reading and writing data from and to the hard disk.

8 Headphones/Line In jack

Connection for the supplied speakers, optional headphones, or audio device.

Microphone jack

Connection for a microphone (optional).

S-video In jack

Connection for an S-video cable (optional).

Composite video In jack

Connection for a video cable (optional).

Composite audio L In jack

Connection for an audio cable (optional).

Composite audio R In jack

Connection for an audio cable (optional).

9 Optical drive 1 eject button

Ejects a disc from Optical drive 1.

10 Optical drive 2 eject button

Ejects a disc from Optical drive 2.

11 Floppy disk eject button

Ejects a floppy disk from the floppy disk drive.

12 Memory Stick® memory card reader

Reads and writes data from and to Memory Stick®, Memory Stick Pro , and Memory Stick Duo media.

13 Secure Digital (SD)/MultiMediaCard (MMC) slot

Reads and writes data from and to a Secure Digital (SD) or MultiMediaCard (MMC).

14 Media access indicator[1]

Light is amber when reading or writing data

15 Power button and power indicator

Press the button to turn the computer on and off. The power indicator light is green when the computer is on and is amber when the computer is in Stand by mode. The power indicator is off when the computer is turned off.

16 Universal Serial Bus (USB 2.0) ports (3)

Connections for compatible high/full/low-speed USB devices.

17 i.LINK (4-pin) S400 port (IEEE 1394)

Connection for a compatible digital device.

[1] The media access indicator lights when reading or writing data with the Secure Digital (SD), Memory Stick®, xD-Picture Card , or CompactFlash® /Microdrive slots.

i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software programs, operating system, and compatible i.LINK devices. All products with an i.LINK connection may not communicate with each other.

Refer to the documentation that came with your compatible i.LINK device for information on operating conditions and proper connection. Before connecting compatible i.LINK devices to your computer, such as an optical or hard disk drive, confirm their operating system compatibility and required operating conditions.

To open and close the optical disc drive doors

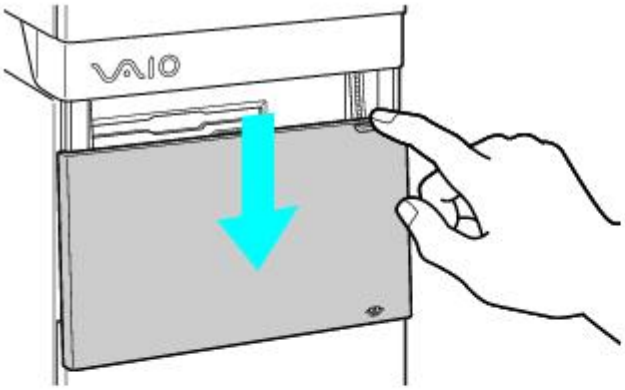
Your computer is equipped with one or more optical disc drives that have a drive eject button located on the drive door.

- After pressing the eject button, wait for the drive to stop reading the CD. It may take a few moments for the drive tray to eject.
- Gently push the drive tray in, when closing the optical drive door. Do not force the door or handle roughly.
- After closing the drive door, wait a few moments for the drive to begin reading the CD.

To open the upper and lower front panel covers

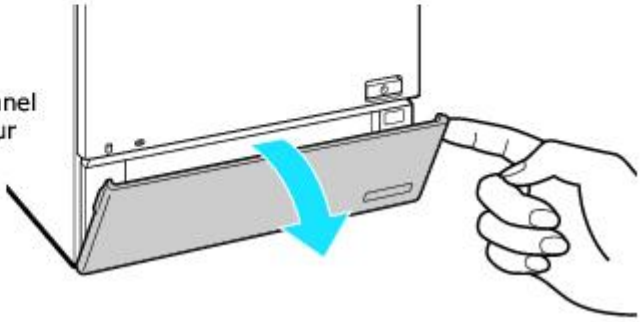
The front of your computer is equipped with panels that cover drives, media card slots, jacks and ports. Do not force the panel covers or handle roughly.

Opening the front panel covers



Slide the upper front panel cover down, using your fingertip.

Flip the lower front panel cover down, using your fingertip.



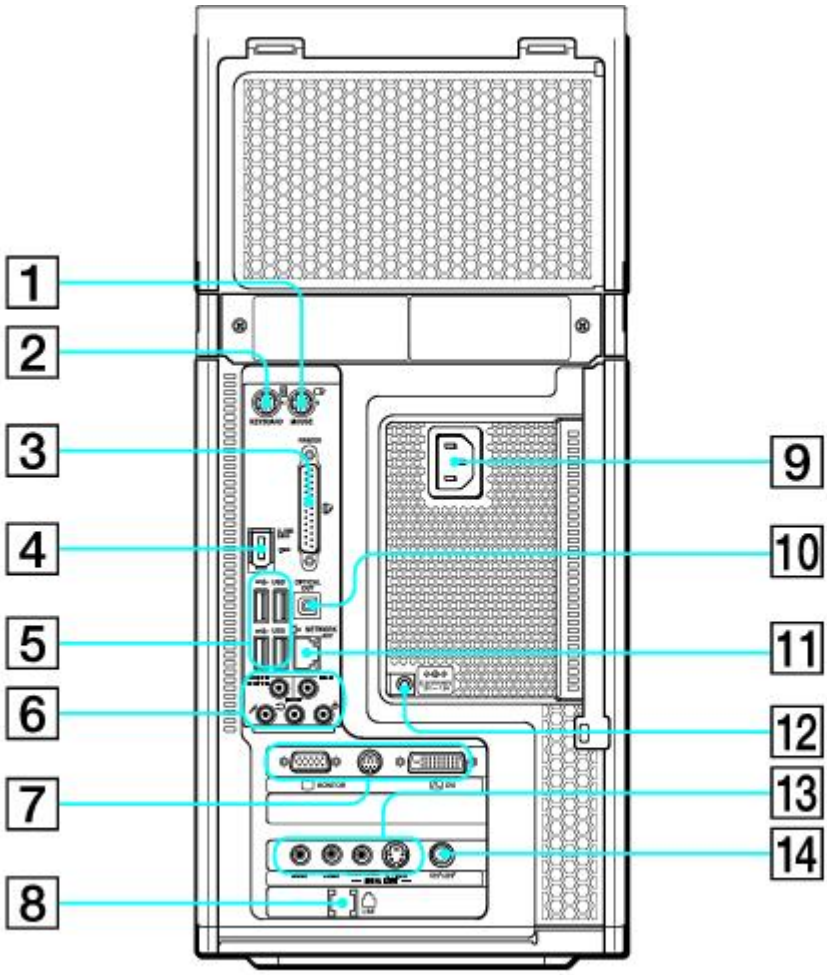
About the Back Panel

The back panel of your computer contains the ports for supplied and optional accessories. The icons on the back panel locate and identify the ports on your computer.

Back panel

The location of certain ports and jacks may vary from the illustration, based on the computer model purchased.

Back panel



1 Mouse port

Connection for a PS/2® mouse.

2 Keyboard port

Connection for a PS/2 keyboard.

3 Printer port

Connection for a parallel device, such as a printer or scanner.

4 i.LINK 6-pin S400 port (IEEE 1394)

Connection and power for a compatible digital device, such as a Sony Digital Handycam® camcorder.

5 Universal Serial Bus (USB 2.0) ports (4)

Connections for compatible high/full/low-speed USB devices.

6 Microphone jack

Connection for a microphone (optional).

Front/Headphones jack

Connection for the supplied speakers (2-channel), front speakers (5.1 speaker system[1]), or optional headphones.

Line In jack

Connection for an audio device.

Woofer/Center jack[2]

Connection for a Sub-woofer[3], control module, or center speaker (5.1 speaker system[1])

Rear jack

Connection for rear speakers (5.1 speaker system[1])

7 Monitor port[4]

Connection for standard (VGA) monitor.

TV Out (S-video/video) jack

Connection for an S-video cable.

DVI-D monitor port

Connection for a DVI monitor.

8 Modem line jack[5]

Connection for an RJ-11 telephone cable (optional).

9 AC Input port

Connection for the supplied power cord.

10 S/PDIF Optical Out port

Connection for a digital audio or optical device.

11 Ethernet port

Connection for a 10BASE-T/100BASE-TX/1000BASE-T Ethernet.

(The port marked with (Network) is for LAN connections only.)

12 Speaker DC Out jack

Connection for the speaker power cable (supplied 2-channel speakers).

13 Composite audio R In jack

Connection for an audio cable (optional).

Composite audio L In jack

Connection for an audio cable (optional).

Composite video In jack

Connection for a video cable (optional).

S-video In jack

Connection for an S-video cable (optional)

14 VHF/UHF port

Connection for a TV coaxial cable (supplied).

[1] Certain VAIO® computers that are configured to order (CTO), may supply 5.1 speakers as part of the accessory package. See your computer's specifications sheet for details on supplied accessories.

[2] Speaker system connections vary by model and manufacturer. See the information supplied with your speaker system for setup details.

[3] A sub-woofer is available with certain VAIO computer models. See your computer's specification sheet for details about supplied accessories.

[4] Certain VAIO® computers that are configured to order (CTO), may have a DVI-D monitor port installed in this location. See your computer's specifications sheet for hardware configuration details

[5] An optional "1-to-2" jack adapter device (splitter) is required to connect both a telephone and modem line to your computer.

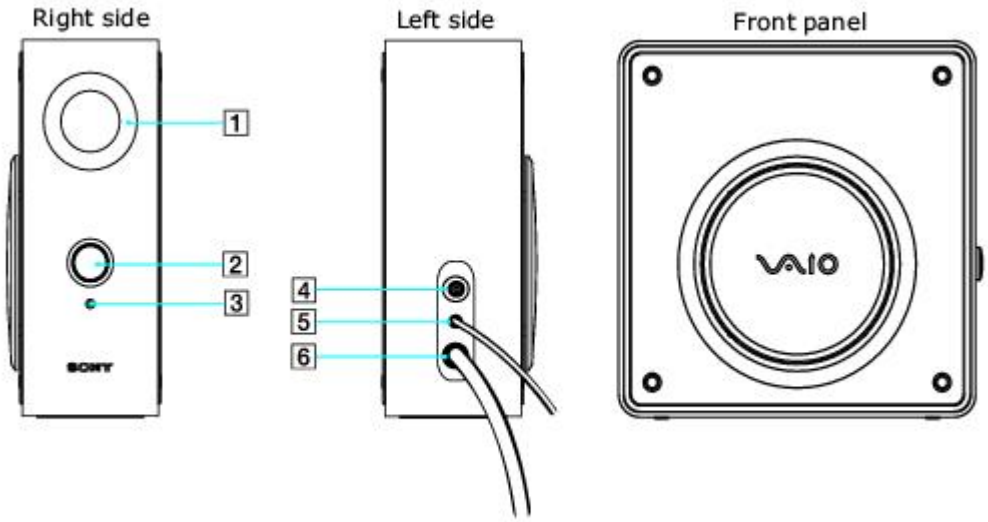
About the Sub-woofer

Certain VAIO® computers are supplied with a sub-woofer unit to enhance your computer's sound capability. See your computer's online specifications sheet for information about supplied accessories. Go to the Sony online support Web site at http://www.sony.com/pcsupport.

Sub-woofer unit

The sub-woofer is compatible with the speakers supplied with your VAIO computer. See the section, Connecting the Speakers, for connecting instructions.

Sub-woofer unit



1 Port

The port extends the low frequency response to extend the volume output of the sub-woofer unit.

2 Power knob/volume control

Rotate the knob clockwise to turn on the sub-woofer unit. Control the volume by rotating the knob until the desired volume is reached. Rotate the knob counter-clockwise to turn off the sub-woofer unit.

3 Power indicator

Light is green while the power is on.

4 Speaker jack

Connection for the speaker cable.

5 Sub-woofer unit cable

Connects the sub-woofer unit to the computer's Headphones jack.

6 AC power cord

Connects the sub-woofer unit to a grounded AC wall outlet or power strip.

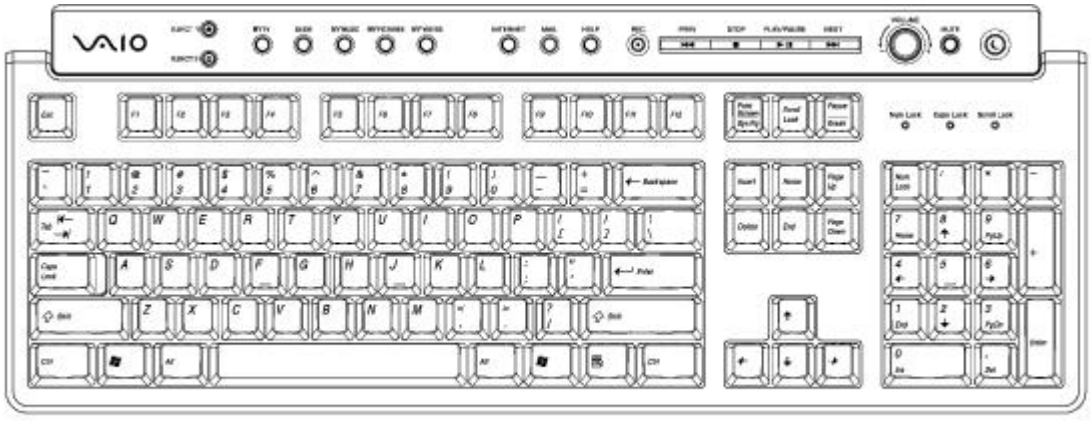
About the Keyboard

This section describes the special and standard functions available for your keyboard.

VAIO keyboard with Media Center features

The VAIO® keyboard supplied with your computer has a standard key arrangement with additional keys and controls that support Microsoft® Windows® XP Media Center Edition features.

VAIO keyboard



BUTTON	DESCRIPTION
EJECT 1	Opens and closes the optical drive 1 tray.
EJECT 2	Opens and closes the optical drive 2 tray.
MY TV	Opens the **My TV** window of Windows® Media Center.
GUIDE	Opens the **TV program guide** of Media Center.
MY MUSIC	Opens the **My Music** window of Media Center.
MY PICTURES	Opens the **My Pictures** window of Media Center.
MY VIDEOS	Opens the **My Videos** window of Media Center.
INTERNET	Starts the assigned Internet browser.
MAIL	Starts the e-mail software program.
HELP	Starts the **Media Center Help**, if Media Center software is running. (If Media Center software is not running, the Help and Support Center is started.)
REC	Records TV programs.
PREV	Press once to return to the beginning of the DVD chapter, video track, or audio track. Press twice to return to the previous DVD chapter, video track, or audio track.
STOP	Stops media recording or playback.
PLAY/PAUSE	Pauses the movie, video, slide show, or audio track. Press again to resume playback.

NEXT Advances to the next DVD chapter, video track, or audio track.

VOLUME knob Increases (+) and decreases (-) the volume as you turn the knob.

MUTE Turns the sound off. Press again to restore sound.

STANDBY Places the computer in Stand by mode to reduce power consumption. Press any key briefly to resume normal operation.

KEY DESCRIPTION

Function The 12 function keys along the top of the keyboard are used to perform certain tasks. The task associated with each function key may vary between software programs.

Numeric keypad Use the numeric keypad area to type numbers or to perform basic math calculations. Press the Num Lock key to activate the numeric keypad. (The Num Lock indicator lights.) Press the Num Lock key again to deactivate the numeric keypad.

Directional Arrows The up, down, left, and right arrow keys move the pointer on the screen.

Applications

The Applications key displays a shortcut menu in certain software programs. Pressing this key is equivalent to clicking the right mouse button.

Windows

The key with the Microsoft® Windows® logo, displays the Start menu. Pressing this key is equivalent to clicking Start on the taskbar.

INDICATORS FUNCTION

Num Lock The Num Lock indicator lights when the numeric keypad is activated. When the indicator is off, the directional arrow and correction keys on the numeric keypad area are active.

Caps Lock The Caps Lock indicator lights to advise you that the keyboard is set to type letters in uppercase. When the indicator is off, the letters appear in lower case as you type.

Scroll Lock The Scroll Lock indicator lights to advise you that your screen's scrolling pattern has changed. When the indicator is off, the screen scrolls normally. This function is not available with all software programs.

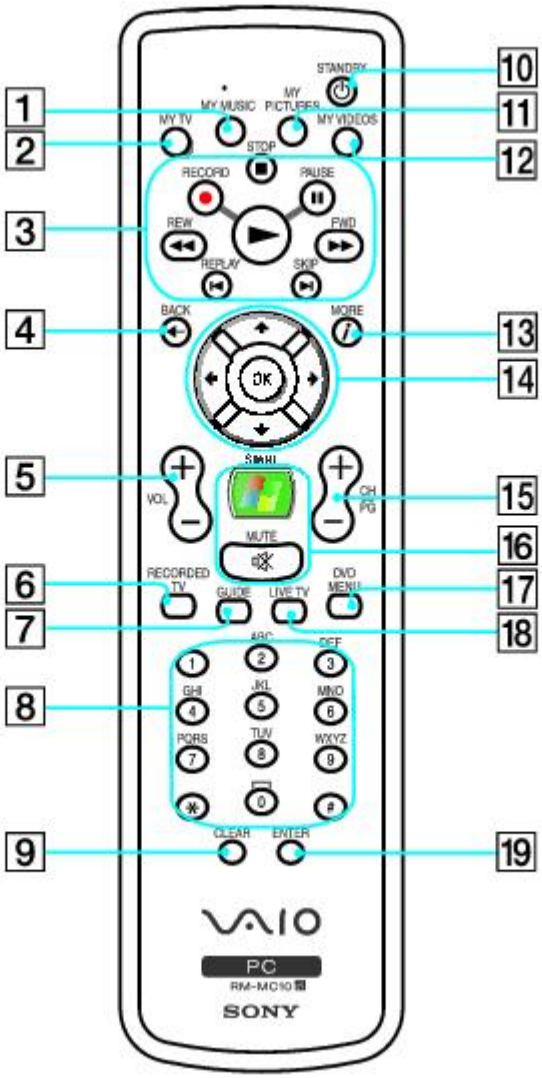
About the Remote Control

The Media Center remote control is supplied with VAIO Digital Studio® computers that are equipped with the Microsoft® Windows® XP Media Center Edition operating system.

Remote control

The remote control can start and stop video recording and playback, select channels, and set viewing preferences. This section describes the basic functions of your remote control.

Remote Control



1 MY MUSIC button

Press to view and listen to your music playlists.

2 MY TV button

Press to view the My TV menu.

3

STOP button

Press to stop media playback or TV recording session.

PAUSE button

Press to pause media playback. Press again to resume playback.

FWD button

Press to fast-forward media at three speeds.

SKIP button

Press to move media forward, for example, one audio track, one DVD chapter, and 30 seconds of recorded TV or video.

REPLAY button

Press to move media backward, for example, one audio track, one DVD chapter, and seven seconds of TV or video.

REW button

Press to move media backward at two speeds.

RECORD button

Press to begin recording.

PLAY button ►

Press to begin media playback.

4 BACK button

Press to return to the previous window.

5 VOL button

Press to increase (+) or decrease (-) the volume.

6 RECORDED TV button

Press to view previously recorded TV programs (In **My TV** window)

7 GUIDE button

Press to view the TV program guide for your area.

8 Channel number buttons (0-9)

Press to select specific channels or enter text.

(Press **Enter** or **OK** to activate the channel selection.)

9 CLEAR button

Use to backspace and delete entered text.

10 STANDBY button

Press to place the computer in Stand by mode to reduce power consumption.

11 MY PICTURES button

Press to view pictures or a slide show.

12 MY VIDEOS button

Press to view videos from your video collection.

13 MORE button *i*

Press to view additional options that are available for Media Center features.

14 Directional arrow buttons

Press the Up, Down, Left, and Right arrow buttons to move the pointer on the screen.

OK button

Press **OK** to select the desired action or window option. If watching full-screen TV press **OK** to return to the previous channel. Press **OK** again to switch between channels.

15 CH/PG (Channel/Page) button

Press to change or page up/down channels (no number input required).

16 START button

Press to open the Media Center Start menu.

MUTE button

Press to turn off the sound. Press again to restore the sound.

17 DVD MENU button

Press to open the main menu on a DVD.

18 LIVE TV button

Press to view TV programming.

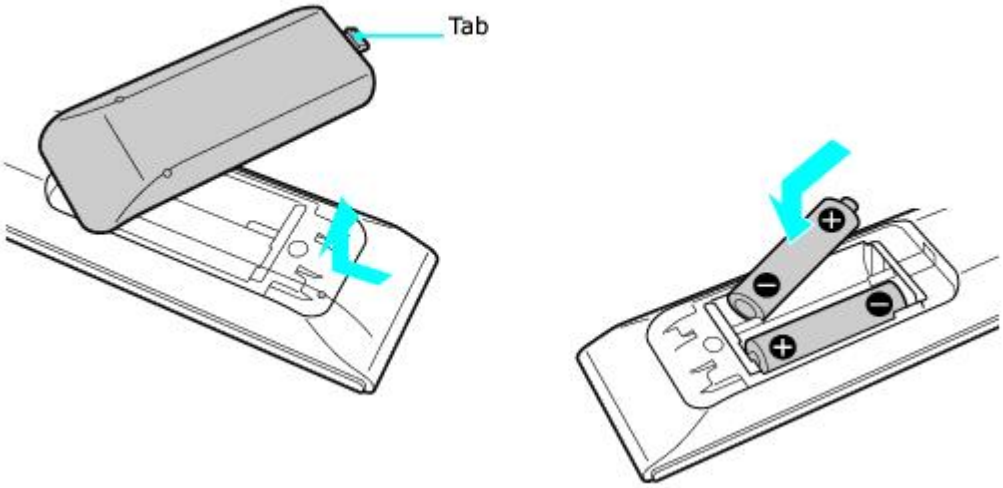
19 ENTER button

Press to activate feature or action, such as channel selection or return to previous channel. (This button's actions are similar to using the OK button.)

Setting up the remote control

1. Turn the remote control over.
2. Press in the tab and lift the battery cover up.
3. Insert two AA batteries (supplied) into the remote control as shown.
4. Align the battery cover to the remote control.
5. Press down until the cover clicks into place.

Inserting batteries into the remote control



If your remote control does not operate properly, you may need to replace the batteries. When your remote control is not being used for extended periods of time, remove the batteries to avoid possible damage from battery leakage.

About the i.LINK Port

Your VAIO® computer is equipped with a 4-pin and a 6-pin i.LINK® port. A 4-pin i.LINK port cannot supply power to a connected i.LINK device. A 6-pin i.LINK port can supply power (10V to 12V) to a connected i.LINK device, if the device is equipped with a 6-pin connector.

The total power supplied by the 6-pin i.LINK port does not exceed 6 watts.

Connecting an i.LINK (IEEE 1394) device

1. Use the symbol to locate the i.LINK port on your compatible i.LINK device and on your computer. Plug the i.LINK cable connector into this port.
2. Plug the other end of the cable into the corresponding 4- or 6-pin i.LINK port on your computer.

See the instructions supplied with your i.LINK device for more information on installation and use.

Setting Up Your Computer

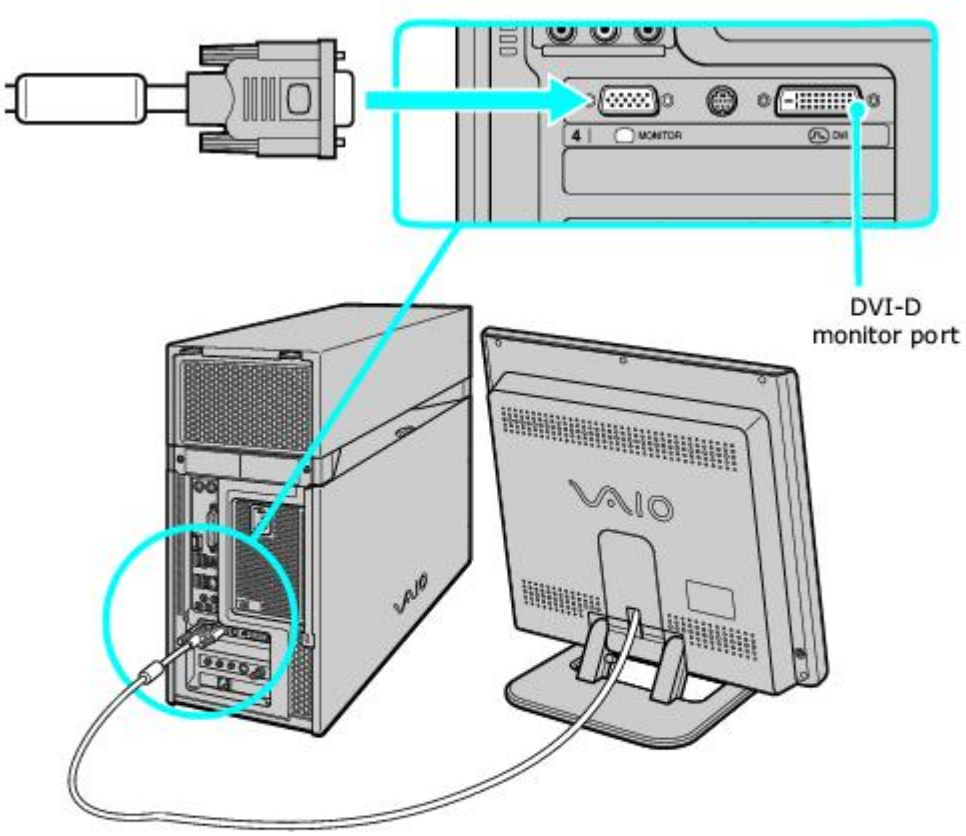
Your computer may not be equipped with all of the hardware features described in the section. The location of the controls, ports, and jacks may vary from the illustrations shown. See the online *Specifications* sheet for your computer's specific hardware configuration.

- Connecting a Display (Monitor)
- Connecting the Speakers
- Connecting 5.1 (6-Channel) Speaker Systems
- Configuring Software for Your Speaker System
- Connecting the Keyboard and Mouse
- Connecting the Telephone and Modem
- Connecting the Power Cords
- Turning On Your Computer

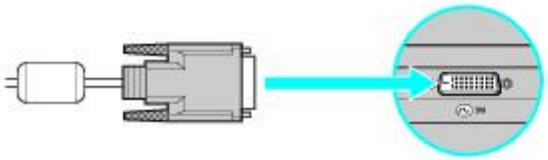
Connecting a Display (Monitor)

1. Plug the display's cable into the appropriate monitor port.
2. If necessary, plug the display's cable into the rear of the display.

To connect a display



To connect a DVI display with the DVI-D monitor port*



**A Video adapter device is required to connect a VGA monitor using the DVI-D port*

Install your equipment so that you can easily reach the power outlet in the event of an emergency.

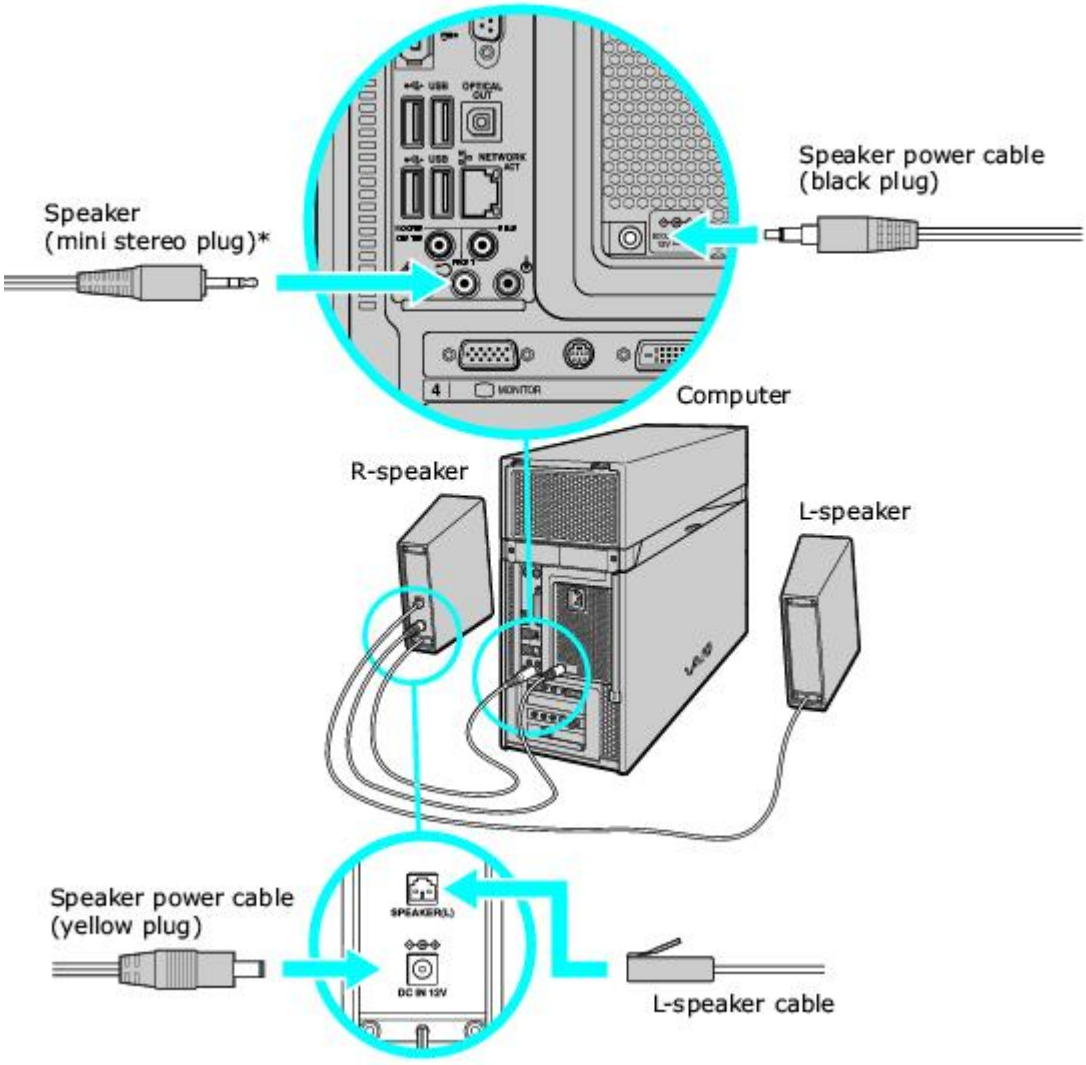
Connecting the Speakers

Your VAIO® computer is supplied with 2-channel speakers. Certain models are supplied with a sub-woofer unit or 5.1 speaker systems[1]. For information about supplied accessories, go to the Sony online support Web site at http://www.sony.com/pcsupport to view your computer's specifications sheet.

To connect the 2-channel speakers (supplied)

1. Plug the cable attached to the back of the left speaker into the Speaker(L) jack on the back of the right speaker.
2. Insert the yellow plug of the speaker power cable into the DC In jack on the back of the right speaker.
3. Insert the black plug of the speaker power cable into the DC Out jack located on the back panel of your computer.

To connect the computer and speakers



4. Insert the mini stereo plug of the cable that is attached to the right speaker, into the Front/Headphones jack, located on the back panel of your computer.

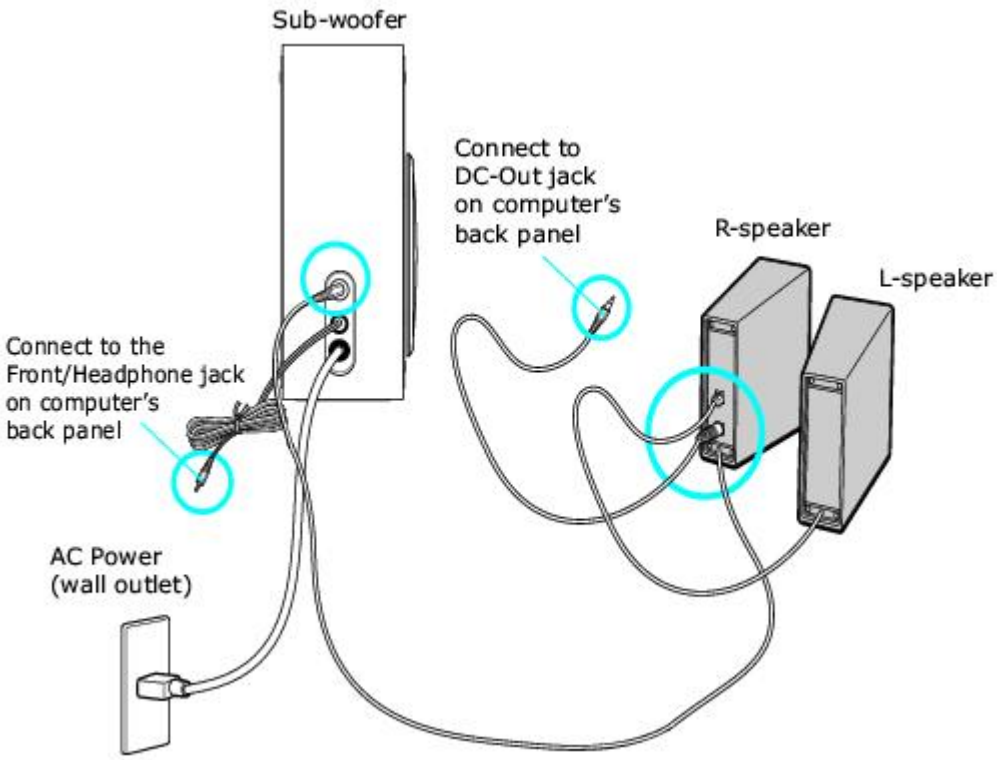
You can also plug the right speaker's mini stereo plug into the headphones jack located on the lower front panel of your computer.

To connect a sub-woofer unit

Certain VAIO® computer models are supplied with a sub-woofer unit which requires a slightly different setup. See your computer's specifications sheet for information about supplied accessories.

1. Insert the mini stereo plug of the cable that is attached to the right speaker into the speaker jack, located on the left side of the sub-woofer unit.

To connect the speakers and sub-woofer unit

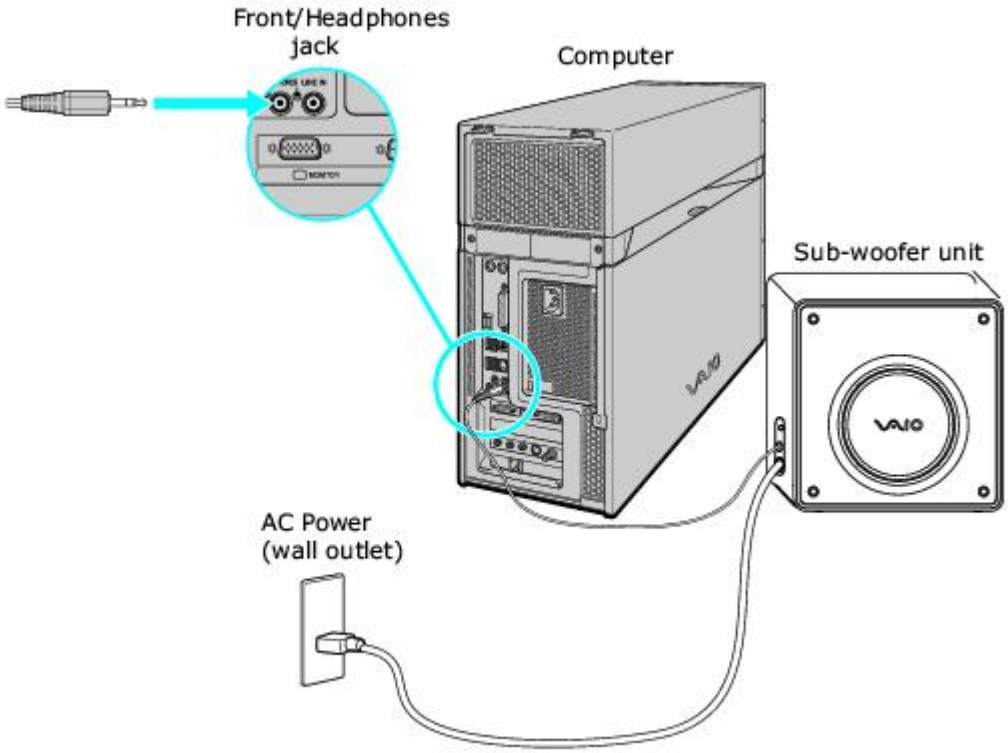


2. Insert the mini stereo plug from the sub-woofer unit's cable into the Headphones jack, located on the back panel of your computer.

You can also plug the sub-woofer's mini stereo plug into the headphones jack located on the lower front panel of your computer.

3. Plug the sub-woofer unit's power cord into a grounded AC wall outlet or power strip.

To connect the sub-woofer to the computer



[1] Certain VAIO computers that are configured-to-order (CTO), may be supplied with a 5.1 speaker system. For details about using this type of speaker system, see the information provided with the system.

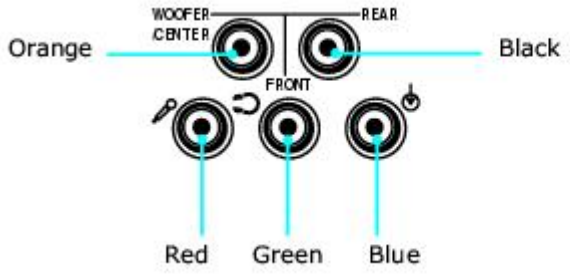
Connecting 5.1 (6-Channel) Speaker Systems

Certain VAIO® computers that are configured-to-order (CTO), are supplied with a 5.1 speaker system, or you may wish to use your 5.1 (6-channel) speaker system. Speaker configuration can vary, depending on the speaker components used.

To set up the speakers with your computer:

- Match the color of the mini stereo plugs (speaker system) to the color of the speaker jacks on the back panel of your computer.
- Review the connection instructions provided with your speaker system, as the connection setup may vary.

Audio jacks (computer back panel detail)



Jack color **Description/Connection**

Orange **Woofer/Center**[1] — Connect a Sub-woofer[2], control module,

or Center speaker (5.1 speaker system[3])

Black **Rear** — Connect rear speakers (5.1 speaker system).

Red **Microphone** — Connection an optional microphone.

Green **Front/Headphones** — Connect the supplied speakers (2-channel), front speakers (5.1 speaker system), or optional headphones.

Blue **Line In** — Connect an audio device.

[1] Speaker system connections vary by model and manufacturer. See the information supplied with your speaker system for setup details.

[2] A sub-woofer is available with certain VAIO® computer models. See your computer's specification sheet for details about supplied accessories.

[3] Certain VAIO computers that are configured to order (CTO) may supply a 5.1 speaker system as part of the accessory package. See your computer's specifications sheet for details on supplied accessories.

Configuring Software for Your Speaker System

When using 5.1 (digital or analog) speaker systems, certain software programs require setting changes to enable proper audio performance.

To configure RealTek® Sound Effect Manager software

For 6 channel-analog speakers

1. Click **Start** in the Windows® taskbar, and then click **Control Panel**.
2. Click **Sounds, Speech, and Audio Devices**, and then click **Sound Effect Manager**.

   The **Sound Effect Manager** window appears.
3. Click **Speaker Configuration**.
4. From the drop-down menu on the left, select **6CH Speaker**.
5. Close the **Sound Effect Manager** window.

For 6 channel-digital speakers

1. Click **Start** in the Windows® taskbar, and then click **Control Panel**.
2. Click **Sounds, Speech, and Audio Devices**, and then click **Sound Effect Manager**.

   The **Sound Effect Manager** window appears.
3. Click **Speaker Configuration**.
4. From the drop-down menu on the left, select **Dolby Digital 5.1**.
5. Close the **Sound Effect Manager** window.

To configure Media Center software

Your computer's factory default settings for audio can be changed using the Media Center Settings feature. You can switch between 2-channel, 6-channel, or S/PDIF output modes.

1. Use the Media Center remote control, your keyboard, or mouse, to start the Media Center software program.
2. Select **Settings** and press **OK**.

   The **Settings** window appears.
3. From the **Settings** window, select **DVD**, and then press **OK**.

   The **DVD Settings** window appears.
4. Select **Audio** and press **OK**.

   InterVideo® software's audio settings window appears.
5. Select **Configuration** and press **OK**.
6. From the section, **Set sound output to match your system**, use +/- to locate the appropriate speaker system setup.

   To enable S/PDIF output, select **SPDIF**.
7. Select **Save**, and press **OK**.
8. Press on the remote control to return to the Media Center Start menu.

To configure WinDVD software

1. Click **Start** in the Windows® taskbar, and point to **All Programs**.
2. Point to **InterVideo WindDVD 5**, and the click on **InterVideo WinDVD 5 for VAIO**.

   The **InterVideo WinDVD for VAIO** window opens.
3. Right-click in the **WinDVD** window.

   A shortcut menu appears.
4. Click **Setup...**, to view the **Setup** dialog box.
5. Select the **Audio** tab.
6. From the section, **Audio Speaker Configuration**, select **6-channel speaker (5.1 Home Theater)** or the desired speaker configuration.

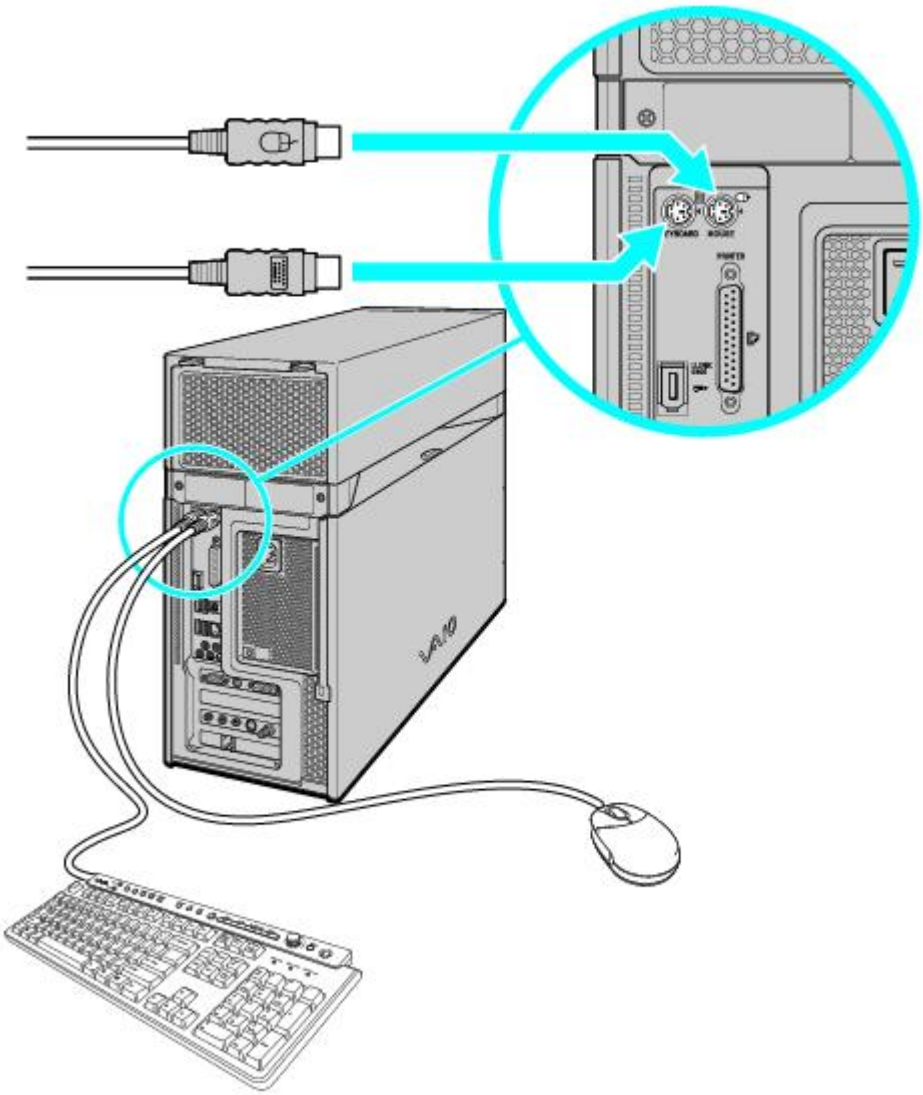
   To enable S/PDIF, go to **Audio Output Configuration** and select **Digital (S/PDIF) out to External Processor**.
7. Click **Apply**, and then click **OK**.

✍ InterVideo® software automatically detects the type of speaker system. You may notice that some options are disabled or are not available.

Connecting the Keyboard and Mouse

1. Plug the keyboard cable into the keyboard port on the back of the computer.
2. Plug the mouse cable into the mouse port on the back of the computer.

To connect the keyboard and mouse



Connecting the Telephone and Modem

Your computer is equipped with a single modem line jack to connect your installed modem with your telephone wall jack. To use your wall jack for both telephone and modem lines, purchase an additional RJ-11 telephone cable and a "1-to-2" jack adapter device (splitter).

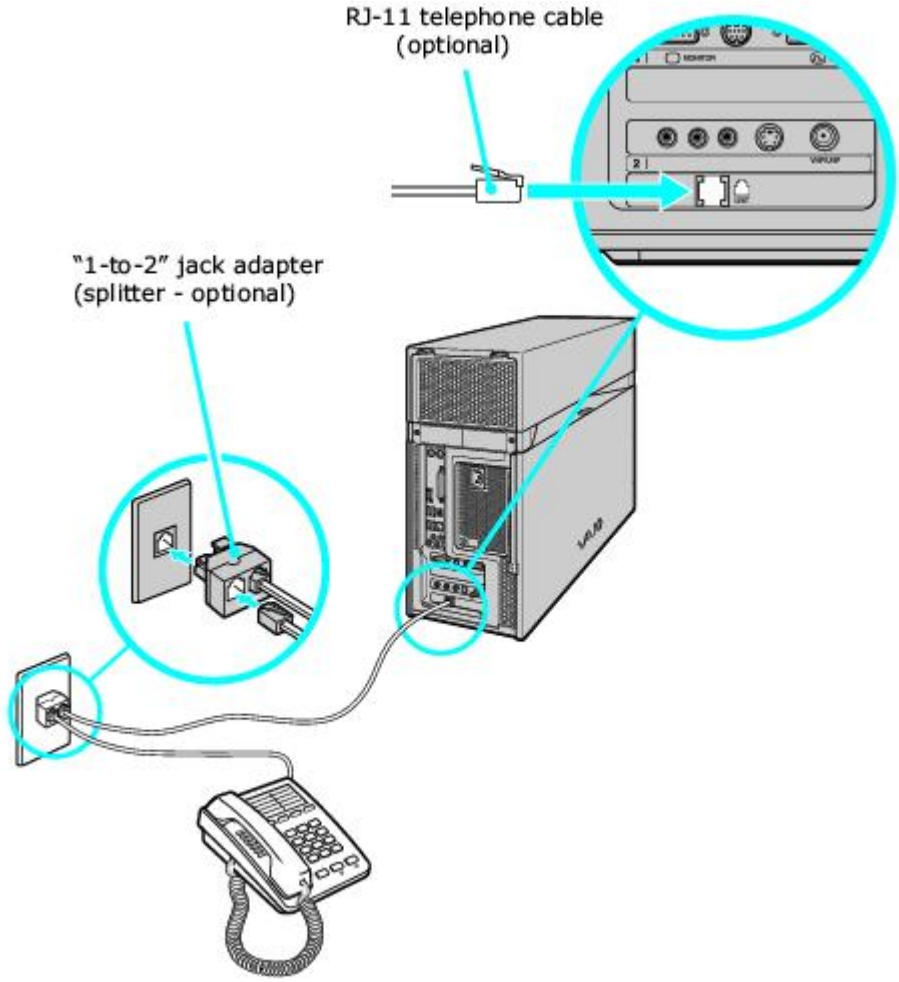
To connect the modem

1. Unplug your telephone from the wall jack and set aside.
2. Plug another telephone cable (optional) into the modem line jack located on the back panel of your computer
3. Plug the other end of the cable into the wall jack.

To connect the telephone and modem

1. Unplug your telephone cable from the wall jack.
2. Insert the telephone's cable into one of the jacks on an optional "1-to-2" jack adapter device (splitter).
3. Insert one end of a second telephone cable (optional) into the other jack on the splitter device.
4. Insert the plug end of the splitter device into the wall jack.
5. Plug the second telephone cable into the modem line jack located on the back panel of the computer.

To connect the telephone and modem

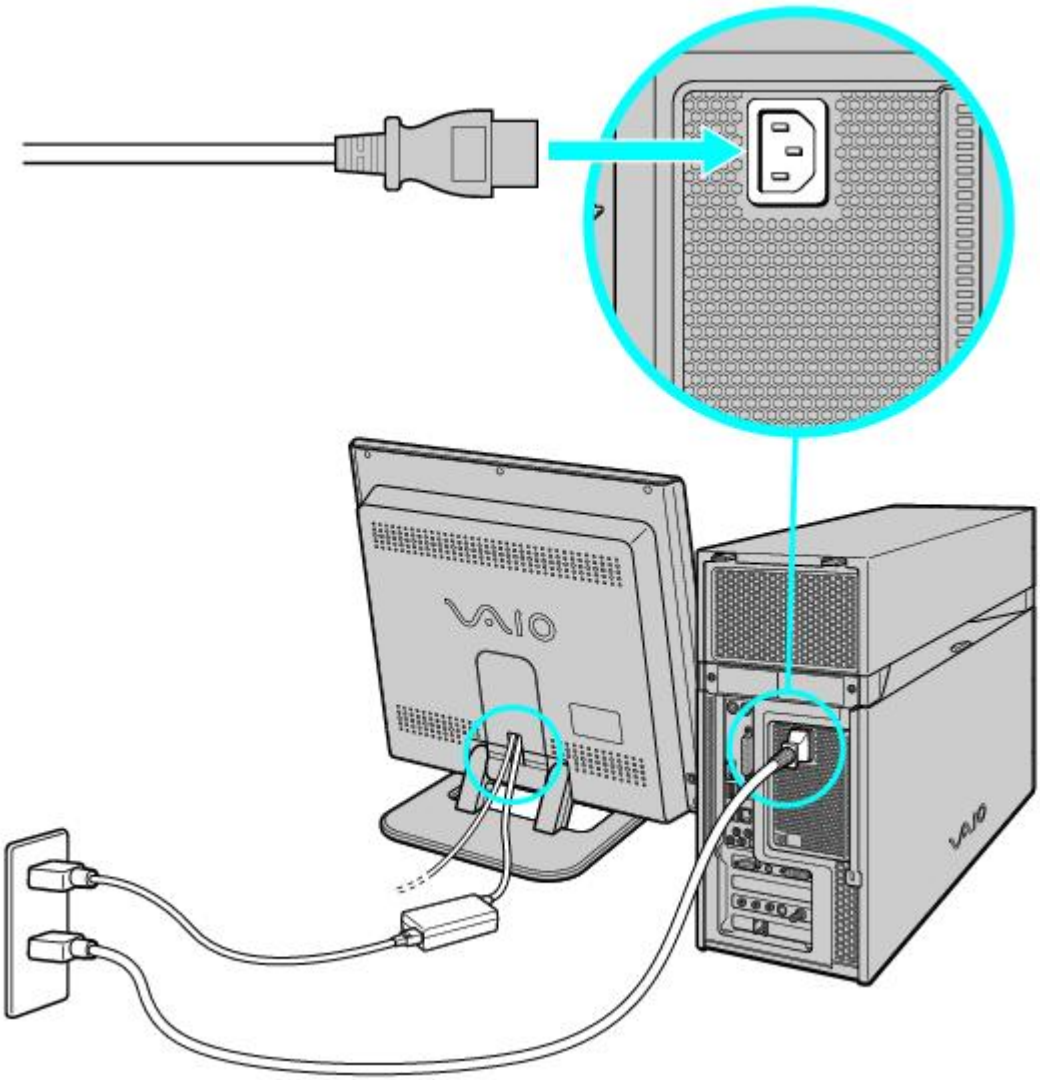


Your computer has a protective sticker covering the Ethernet port located on the rear panel. Connect 10BASE-T, 100BASE-TX, or 1000BASE-T cables to the Ethernet port, depending on your computer's Ethernet port specification. Using incorrect cables or a telephone cable may result in an electric current overload that can cause a malfunction, excessive heat, or fire in the Ethernet port. For help on connecting to a network, see your network administrator.

Connecting the Power Cords

1. Plug the power cord into the back of the computer.
2. Plug both the display and computer power cords into a grounded AC wall outlet or a power strip.

To connect the power cords



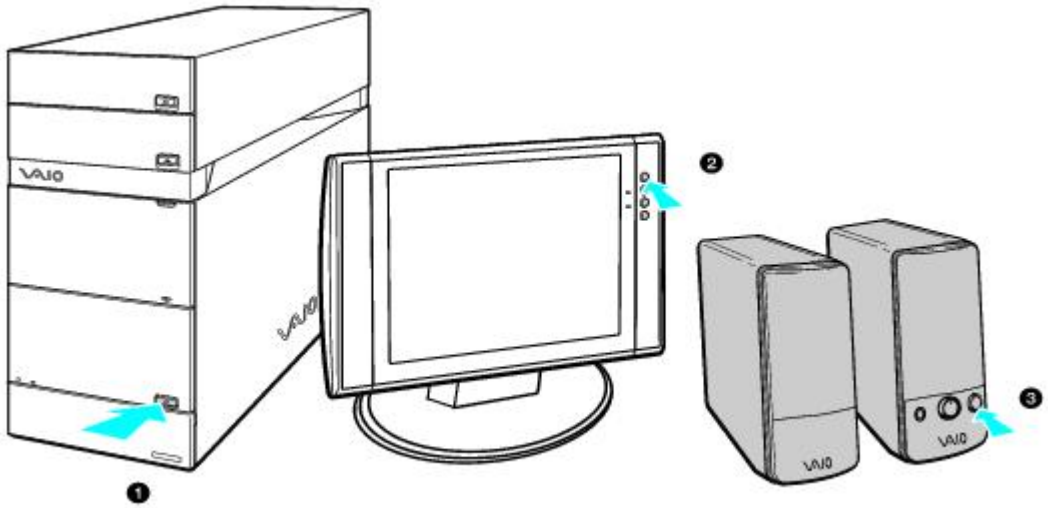
Turning On Your Computer

When you start your computer for the first time, your computer may detect new equipment and display a dialog box that prompts you to restart your computer. Respond to this prompt immediately.

Before turning on your computer, set up the cables and connections required to use Microsoft® Windows® XP Media Center Edition features. See the section, Setting Up Media Center.

1. Press the power button on the computer to turn on the power.
2. Press the power button on the display to turn on the power.
3. Press the power button on the right speaker to turn on the power.

To turn on your computer



Setting Up Media Center

Your VAIO Digital Studio® computer has the Microsoft® Windows® XP Media Center Edition operating system to enhance your computing experience. Media Center provides you with a wide range of TV, DVD, and video viewing, as well as music recording and playback. This section describes how to set up your TV, set-top box, and other equipment.

- Setting Up TV Connections
- Connecting the Remote Sensor and Remote Sensor Control
- Connecting Other Devices
- Registering Your Computer
- Turning Off Your Computer

Setting Up TV Connections

The best method of connecting your computer, TV monitor or display, and TV programming access, is determined by the type of cable service connection available in your home. Your computer's hardware configuration may vary from the illustrations shown in this section. See the online *Specifications* sheet for details about your computer's hardware configuration.

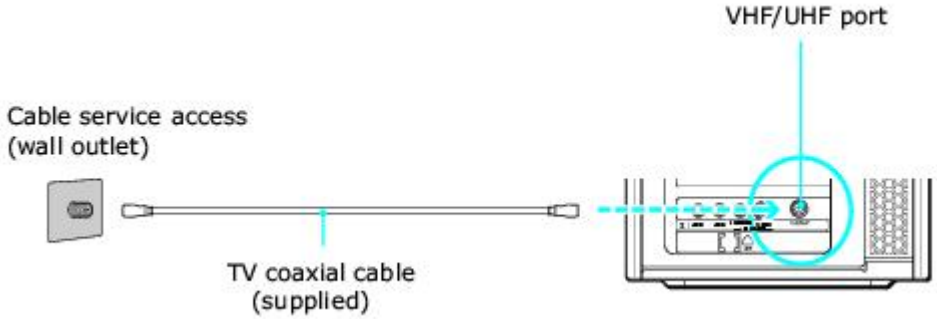
Your VAIO Digital Studio ® computer is supplied with certain video cables. Depending on your in-home cable access, you may require extra cables, adapters or connection equipment that are optional for your computer.

Connecting to standard cable access (CATV)

Option 1

1. Connect one end of the TV coaxial cable (supplied) to your cable service access.
2. Connect the other end of the TV coaxial cable to the VHF/UHF port on the back panel of your computer.

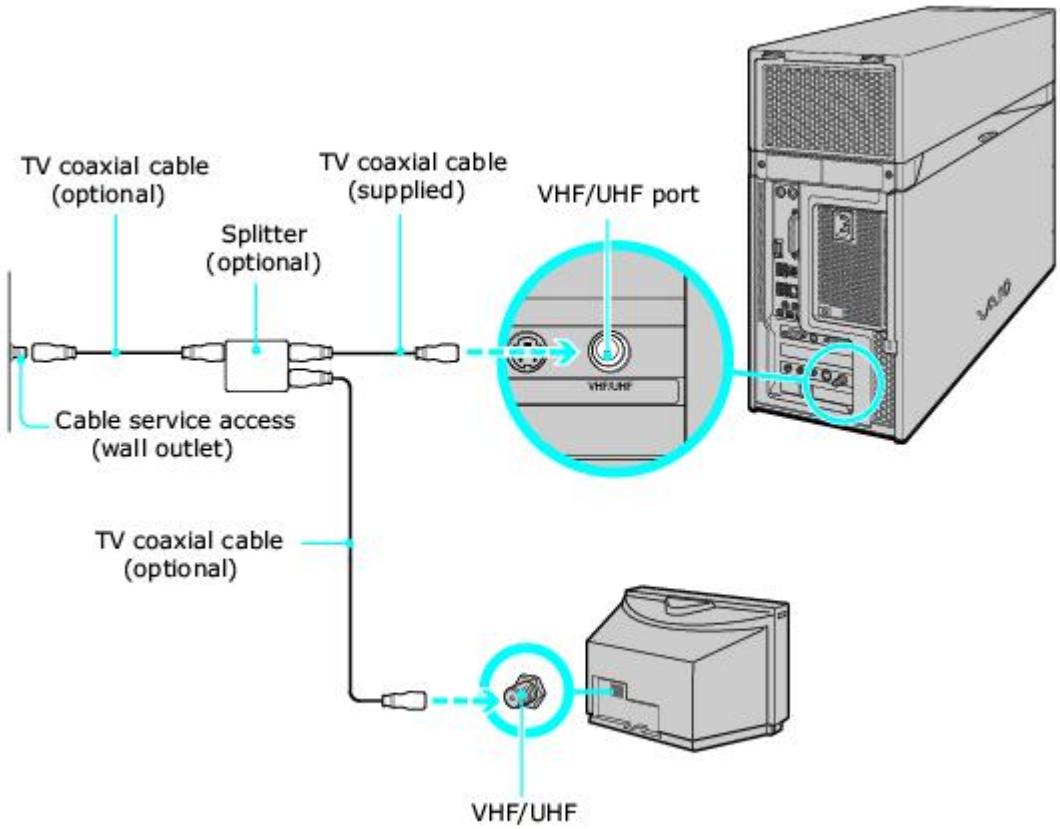
To connect in CATV mode (Option 1)



Option 2

1. Connect one end of a TV coaxial cable (optional) to your cable service access. Connect the other end to the single-connection side of a splitter adapter.
2. Connect the TV coaxial cable (supplied) to the double-connection side of the splitter adapter. Connect the other end to the VHF/UHF port on the back panel of your computer.
3. Connect a third TV coaxial cable (optional) to the double-connection side of the splitter adapter. Connect the other end to the VHF/UHF port on the back of your TV monitor or display.

To connect in CATV mode (Option 2)



Connecting to a standard antenna (air) system

You can connect your computer to an indoor/outdoor antenna system, using Option 1 or 2 from the previous section, Connecting to standard cable access (CATV) The antenna system in your home may require a VHF/UHF RF combiner/transformer (optional) to connect your computer and the indoor/outdoor antenna system.

If you are connecting to an indoor/outdoor antenna system, you may need to reorient the antenna for better reception.

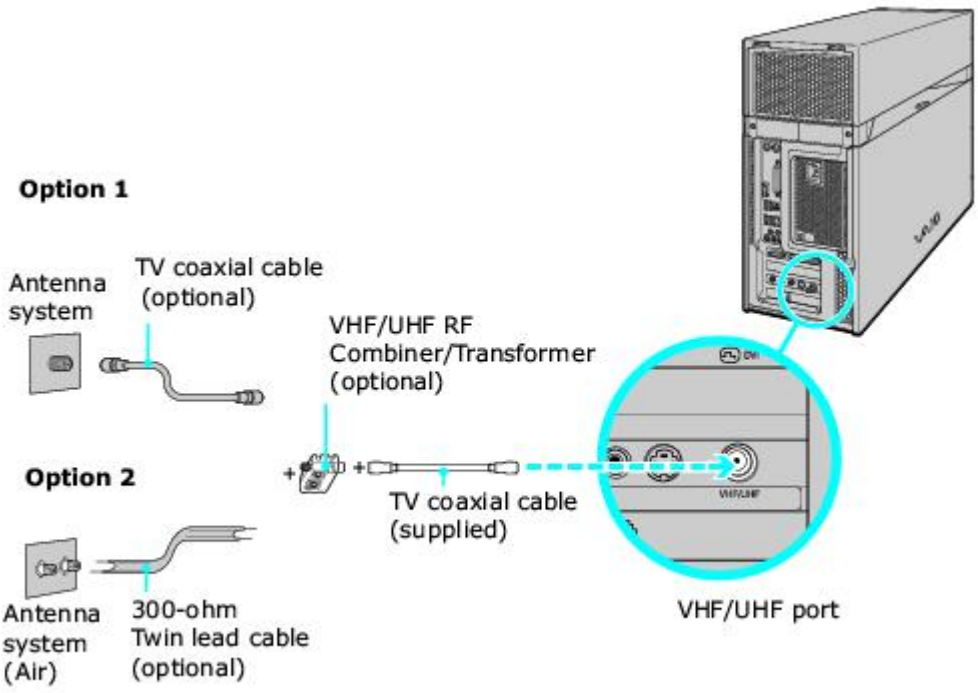
Option 1

1. Connect one end of a TV coaxial cable (optional) to your antenna outlet. Connect the other end to a VHF/UHF RF combiner/transformer (optional).
2. Connect the TV coaxial cable (supplied) from the combiner/transformer to the VHF/UHF port on the back panel of your computer.

Option 2

1. Connect both ends of the antenna's twin lead cable to the screw-type grips on the combiner/transformer.
2. Connect the TV coaxial cable (supplied) from the combiner/transformer to the VHF/UHF port on the back panel of your computer.

To connect in standard antenna mode (air)



Your VAIO Digital Studio® computer is supplied with certain video cables. Depending on your in-home cable access, you may require extra cables, adapters or connection equipment not supplied with your computer.

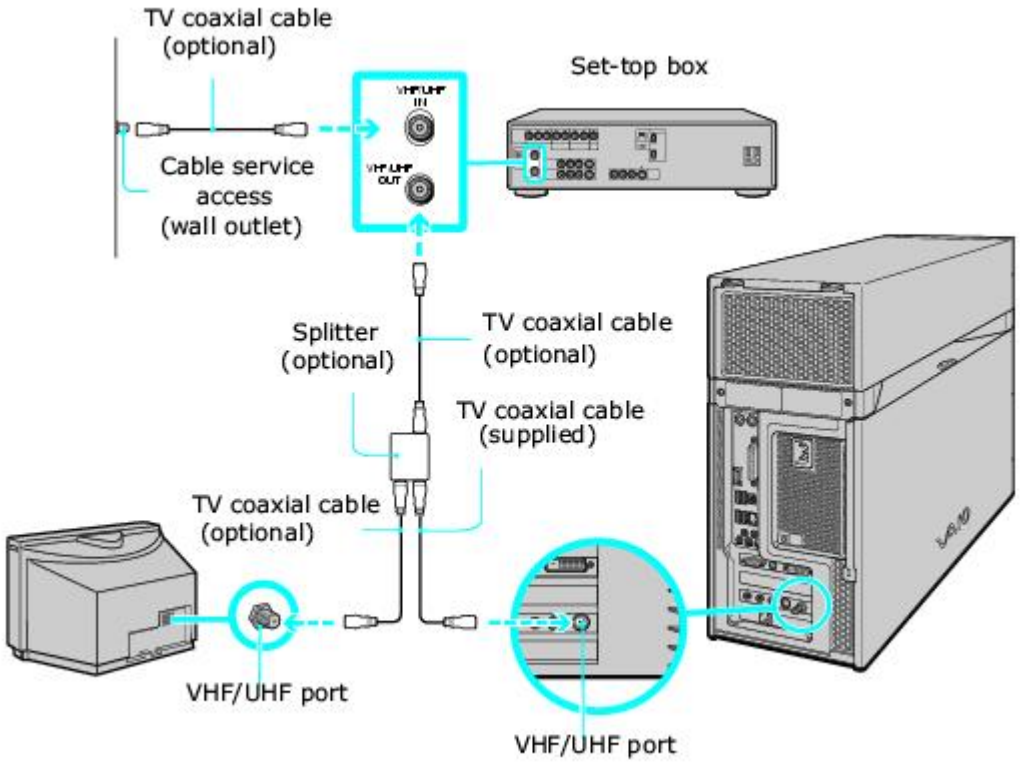
Connecting a Cable or Satellite Set-top Box

You can connect your computer to cable or satellite service that requires a set-top box.

Option 1

1. Connect one end of a TV coaxial cable (optional) to your cable service access. Connect the other end to the In jack on the back panel of your set-top box.
2. Connect a second TV coaxial cable (optional) to the Out jack on your set-top box. Connect the other end to the single-connection end of a splitter adapter (optional).
3. Connect a third TV coaxial cable (supplied) to the double-connection end of the splitter adapter. Connect the other end to the VHF/UHF port on the back panel of your computer.
4. Connect a fourth TV coaxial cable (optional) to the double-connection end of the splitter adapter. Connect the other end to the VHF/UHF port on the rear of your TV monitor or display.

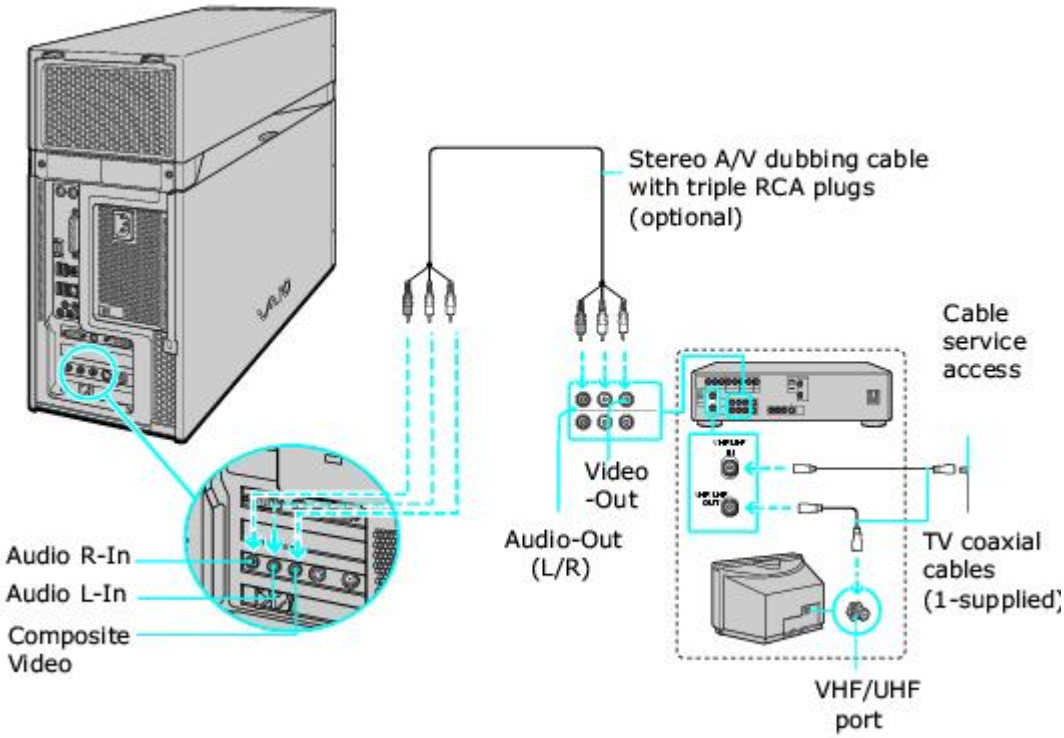
To connect in set-top box mode (Option 1)



Option 2

1. Connect one end of the TV coaxial cable (supplied) to your cable service access. Connect the other end to the In jack on the back panel of your set-top box.
2. Connect a second TV coaxial cable (optional) to the Out jack on your set-top box. Connect the other end to the VHF/UHF port on the rear of your TV monitor or display.
3. Connect one end of a stereo A/V dubbing cable with triple RCA plugs (optional) to the Video Out and Audio-OUT (L/R) jacks on the back panel of your set-top box, matching the plug and jack colors.
4. Connect the other ends of the stereo A/V dubbing cable into the Audio-R (IN), Audio-L (IN), and Composite video (IN) jacks on the back panel of your computer, matching the plug and jack colors.

To connect in set-top box mode (Option 2)



✍ You can connect your computer to a set-top box using an S-video cable (optional) and an audio cable (optional) instead of a stereo A/V dubbing cable (optional). See Connecting Other Devices.

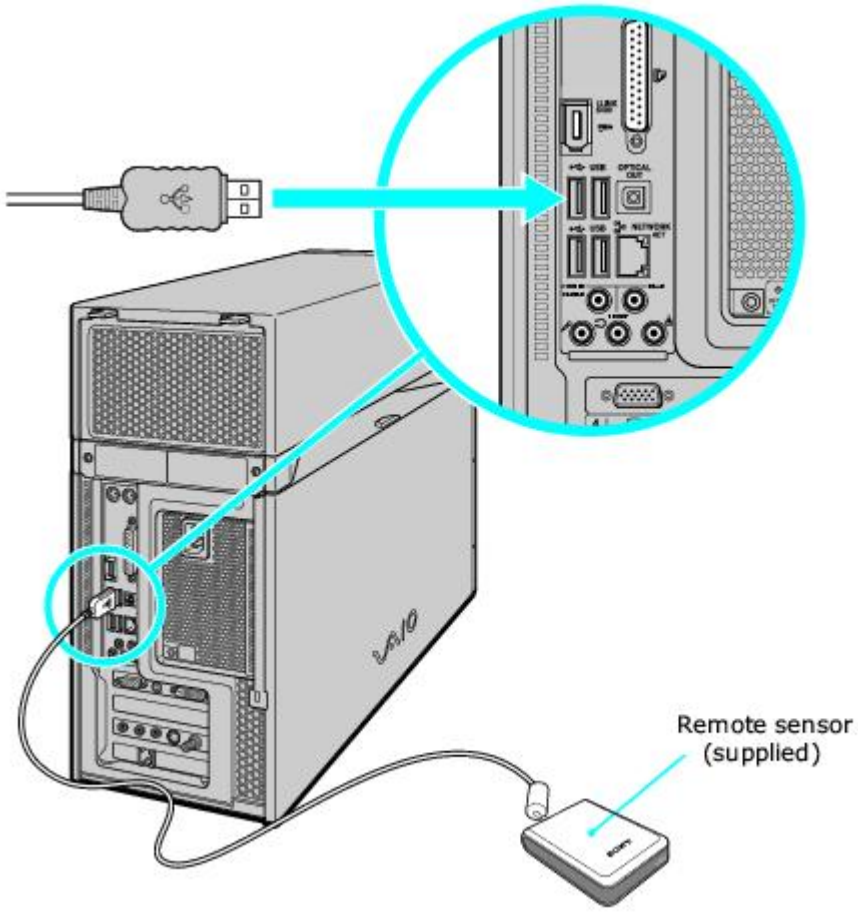
Connecting the Remote Sensor and Remote Sensor Control

The remote sensor communicates with the Media Center remote control, enabling you to change channels and to perform other functions. If you are using a cable or satellite set-top box, you can attach the remote sensor control which enables you to control the set-top box with the Media Center remote control.

To connect the remote sensor

1. Connect the remote sensor unit to a USB port located on either the front or back panel of your computer.
2. Position the remote sensor to enable unobstructed communication with your remote control.

Connecting the remote sensor (back panel)

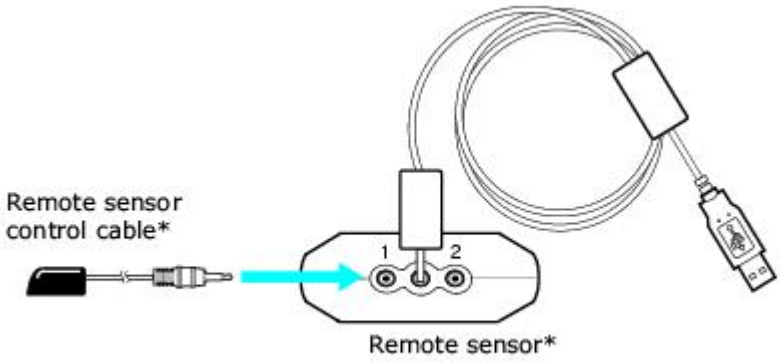


To connect the remote sensor control

1. Plug the remote sensor control's cable into either jack (1 or 2) located on the back of the remote sensor.

✍ When you attach the remote control sensor to a cable or satellite set-top box, you can control the set-top box functions with your remote control.

Connecting the remote sensor and remote sensor control



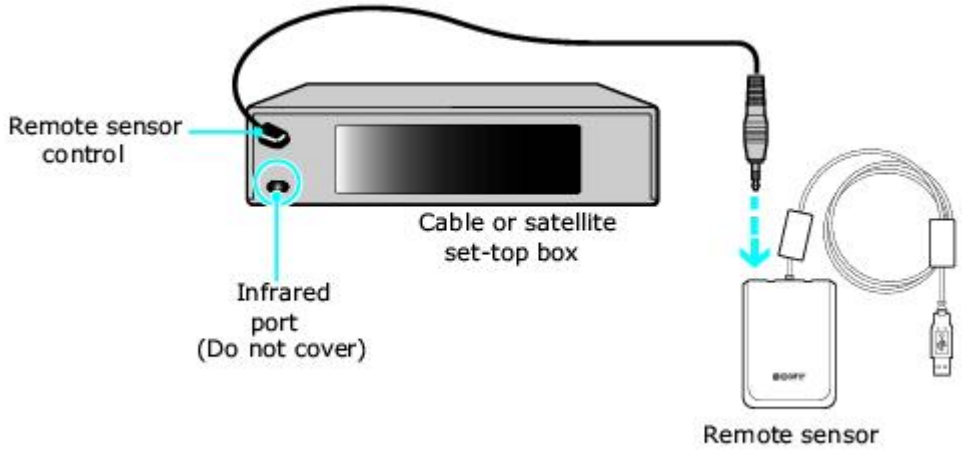
* This supplied accessory may be different from the unit shown here.

2. Remove the adhesive tape cover, located on the bottom of the remote sensor control.

3. Press the remote sensor control onto the set-top box near the infrared port, without covering the port.

✍ If the remote sensor control covers the infrared port on the set-top box, you cannot use the remote control supplied with the set-top box.

Attaching the remote sensor control cable to a cable or satellite set-top box



✍ The remote sensor unit must be visible in a line-of-sight with your remote control in order to function properly.

Connecting Other Devices

This section illustrates how to connect other devices to your VAIO Digital Studio® computer. Your computer has both audio and video connection capability. You can locate the appropriate connections on the back panel or behind the lower bottom panel on the front of the computer. You can connect a VCR or camcorder, using the composite audio In jacks. Your VCR or camcorder may have either standard video or S-video connection capability.

Connecting a device with an audio cable

1. Connect a dual audio cable (optional) to the composite audio L and R In jacks, located on the either the front or rear panels of your computer.
2. Connect the other ends of the dual audio cable to your VCR or camcorder.

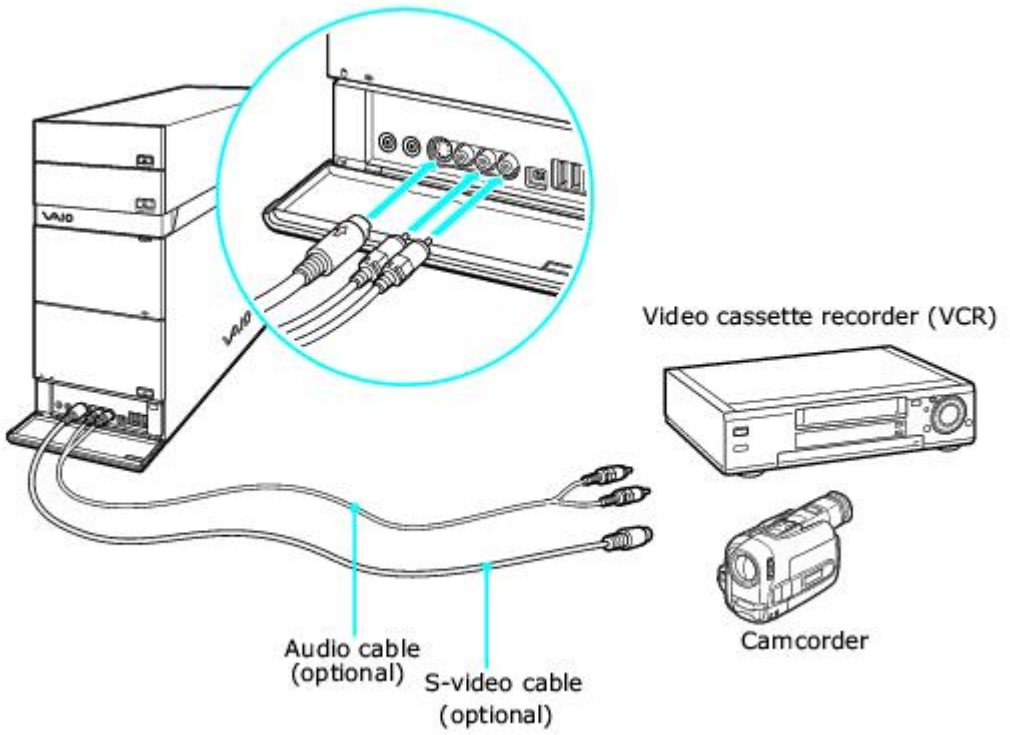
Connecting a device with an S-video cable

1. Connect an S-video cable (optional) directly into the S-video jack on either the front or back panel of your computer.
2. Connect the other end of the S-video cable into the appropriate port on your compatible VCR or camcorder.

Connecting a device with a stereo A/V dubbing cable

1. Connect a stereo A/V dubbing cable with triple RCA plugs at each end (optional) directly into the composite video port, composite audio L and R jacks, located on either the front or back panel of your computer.
2. Connect the other ends of the stereo A/V dubbing cable into the appropriate jacks on your compatible VCR or camcorder.

To connect a VCR or camcorder using an audio and S-video cable



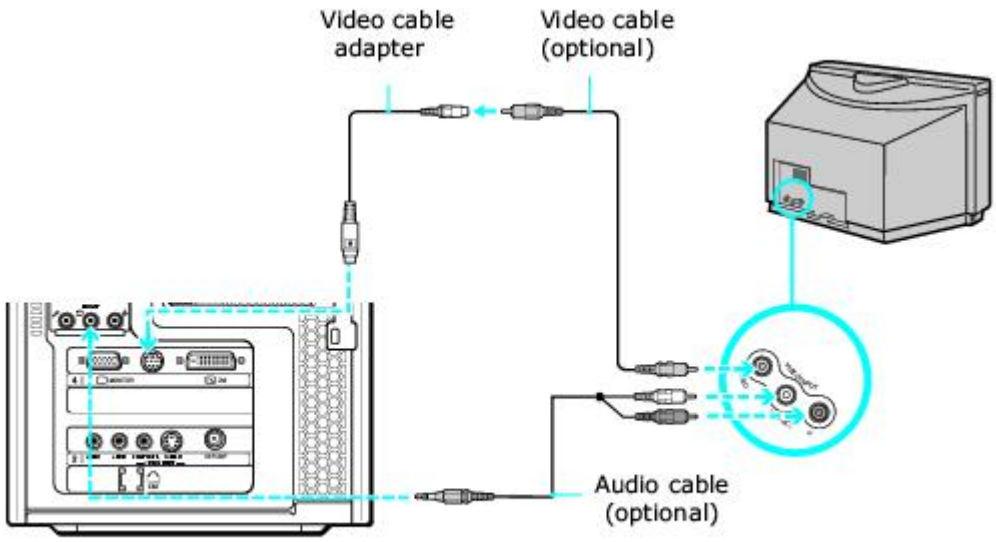
Connecting a TV monitor (display)

1. Connect the video connector end of the video cable adapter[1] to the TV Out (S-video/video) jack on the back panel of your computer.

2. Connect the jack end of the video cable adapter to either end of a video cable (optional). Connect the other end of the video cable to the Video-In jack on your TV monitor or display, located on either the side or back of your TV monitor/display.

3. Connect the single-jack end of an audio cable (optional) to the Headphones jack located on the front or back panel of your computer. Connect the double-jack end of the audio cable to the Audio-In (L/R) on your TV monitor or display. (The Audio-In jacks may be located on the side or rear of your TV monitor/display.)

Connecting a TV monitor or display



The video cable adapter is not necessary, if you use an S-video cable to connect your TV to the computer's TV out (S-video/video) jack.

[1] The video cable adapter is supplied with certain VAIO computer models. See your computer's specifications sheet for information about supplied accessories.

Registering Your Computer

Register your computer and take advantage of Sony's commitment to quality customer support.

About the benefits of registering with Sony

- **Sony Customer Support —** Communicate with a Support Representative to troubleshoot problems you may be having with your computer.

- **Limited warranty —** Protect your investment. See the Limited Warranty Card for more details.

You are prompted to register your computer the first time you turn on the computer. Follow the on-screen instructions to complete the registration process. If you are not able to register your computer during the first session, you can register your computer online at the Sony VAIO PC Registration Web site. Go to http://www.sony.com/vaioregistration.

Turning Off Your Computer

Follow these steps when you are ready to turn off your computer for an extended period of time.

To avoid loss of data, do not use the Power button to turn off the computer.

To turn off your computer

1. Click **Start** in the Windows® taskbar, then select **Turn Off Computer**.

   The **Turn Off Computer** dialog box appears.

2. Select the **Turn Off** option.

   ✍ Respond to any prompts about saving your documents.

3. Wait for your computer to turn off automatically—the power indicator light turns off.

4. Turn off any peripheral devices connected to your computer.

   ✍ If you plan to stop using your computer for a short period of time, use Stand by mode.

About the power button

If your computer stops responding, press and hold the Power button for more than six seconds to force your system to shut down. You may need to repeat this procedure if your computer does not shut down on the first attempt.

Using Memory Cards and Memory Card Readers

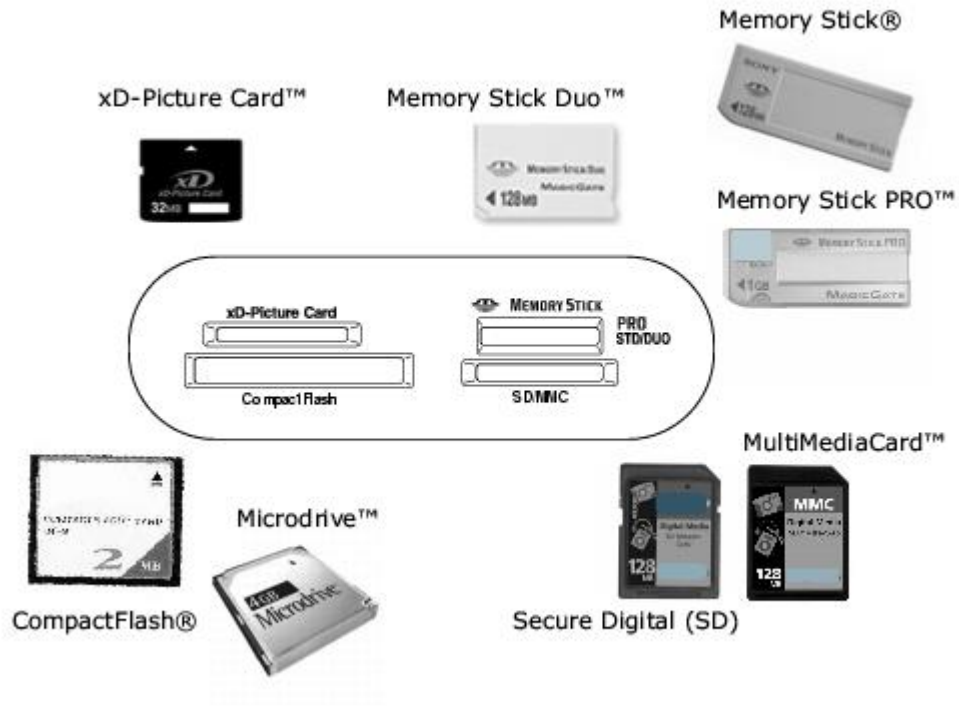
This section provides basic information about using your computer's installed memory card readers. Your computer may not be equipped with all of the memory card readers described in this section, depending on the computer model or configuration purchased. To view the installed hardware configuration for your computer, see the online Specifications sheet.

- About Your Memory Card Readers
- Inserting a Memory Card
- Removing a Memory Card
- About Memory Stick Media
- Sharing Memory Cards

About Your Memory Card Readers

Your VAIO® computer is equipped with memory card readers[1] that are compatible with many popular types of memory cards. You can use your computer's memory card readers to transfer data between digital cameras, camcorders, music players, and other audio/video devices.

Memory cards and your computer's memory card readers



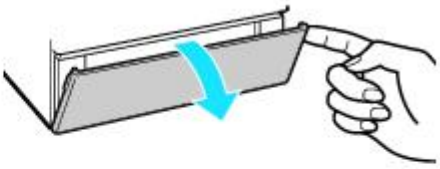
[1] Your computer may not be equipped with the memory card readers shown here. To view the installed memory card readers for your computer, see the online specifications sheet.

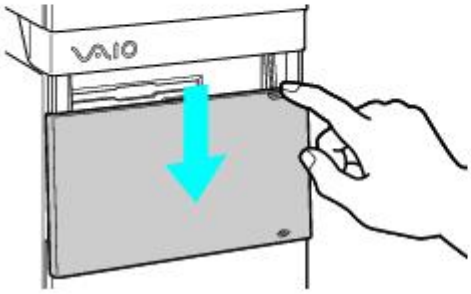
Inserting a Memory Card

The memory card readers are located on the front of your computer, behind a protective panel.

Opening the front panel cover

Flip a lower front panel cover down, using your fingertip.





Slide an upper front panel cover down, using your fingertip. Do not use force to open the panel cover.

1. Locate the appropriate drive for the memory card you want to use.
2. Insert the memory card into the drive, in the direction of the arrow on the media. Do not force the card into the drive.

✍ If the memory card does not go into the drive easily, remove it and verify you are inserting it in the proper direction.

Removing a Memory Card

The correct way to remove a memory card from a memory card reader varies, depending upon the card in use. Use care when removing a memory card to avoid damage to the reader or card.

Do not remove a memory card while the media access indicator light is on. The card or its data may become damaged.

- **To remove a Secure Digital (SD), MultiMediaCard , or xD-Picture Card media** — Press the extended portion of the memory card to release it from the drive. When the card extends, carefully remove it.
- **To remove a CompactFlash or Memory Stick® media** — Firmly grasp the extended part of the memory card and remove from the drive.

About Memory Stick Media

Memory Stick® media are a compact, portable, and versatile data storage media designed for exchanging and sharing digital data with compatible devices. The following types of Memory Stick media are available, but compatibility with your computer can vary.

- **MagicGate Memory Stick® media** — Provides copyright protection with authentication and encryption, using Sony® MagicGate technology. Authentication ensures that protected content is only transferred between compliant devices and media. Protected content can be recorded and transferred in an encrypted format that prevents unauthorized duplication or playback. You can store different data formats on a single Memory Stick media.
- **Memory Stick PRO media** — Provides MagicGate copyright protection and high-speed data transfer features when used with compatible Memory Stick PRO devices. VAIO® computers support Memory Stick PRO media for data storage purposes only. High-speed data transfer and MagicGate technology features, such as authentication and encryption, may not be available. You can store different data formats on a single Memory Stick media.
- **Memory Stick PRO Duo media** — Provides the same features and benefits of Memory Stick PRO media, in a form that is 1/3 smaller in size.
- **Memory Stick® media** — Provides data storage only. The Memory Stick media does not provide MagicGate technology or high-speed data transfer. You can store different data formats on a single Memory Stick media.
- **Memory Stick Duo media** — Provides the same features and benefits of MagicGate Memory Stick media, in a form that is 1/3 smaller in size.

Compatibility between software programs and Memory Stick media formats may vary. At this time, Sony suggests using only MagicGate Memory Stick media to store and transfer any data created with SonicStage or OpenMG software.

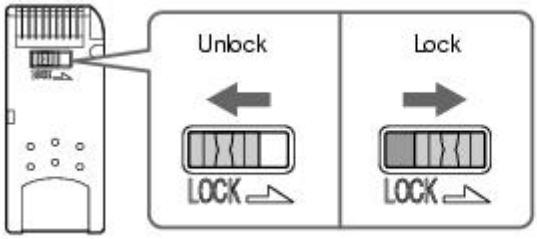
Visit the Sony online support Web site at http://www.sony.com/pcsupport regularly for the latest information on Memory Stick® media.

Memory Stick media do not support AVI file playback directly from the media. Copy the video file to your hard disk drive and then play back the file.

To protect data on Memory Stick media

Some Memory Stick media are equipped with a write-protect tab[1]. The write-protect tab prevents accidental changes to information recorded on your Memory Stick media. When you slide the write-protect tab to the LOCK position, your Memory Stick media is write-protected. You cannot delete, copy, or save information on the media while the write-protect tab in the LOCK position. When you slide the tab to the un-LOCK position, you can write to or modify your Memory Stick media's contents.

Locking the Memory Stick Media



If your computer stops recognizing your Memory Stick® media, you may have removed the media from the Memory Stick drive before the data access process completed.

If this occurs, follow these steps:

1. Remove the Memory Stick media from the slot.
2. Shut down your computer, closing any open software programs, and then turn your computer off.
3. Wait approximately 30 seconds, and then restart your computer.

Your computer recognizes the Memory Stick media, when you insert it into the Memory Stick slot again.

[1] Some Memory Stick media do not have a write-protect tab, or the write-protect tab is in a different location. For details about using your Memory Stick media, see the supplied information sheet.

Sharing Memory Cards

If you plan to share your memory card between your VAIO® computer and devices such as a digital camera or music player, the card must be formatted properly.

- Format the memory card by using it in the device first. See the information supplied with the device for details how to format the memory card.
- If your device does not recognize memory card that has been formatted by your computer, follow these steps:

1. Save the card's contents to your hard disk drive.
2. Reformat the memory card using the device, not your computer.

Upgrading and Maintaining your VAIO Computer

In the future you may want to increase the functionality of your VAIO computer. This section describes how to perform basic upgrades and maintenance on your computer.

- Overview
- About Opening the Computer
- About Closing the Computer
- About Add-on Card Installation
- Installing Memory
- About the Lithium Battery
- About Hard Disk Drive Installation

Overview

The upgrading procedures described in this section assume that you are familiar with the general terminology associated with personal computers, safety practices, required regulatory compliances, and the modification of electronic equipment.

Before upgrading your computer

Disconnect the computer from its power source and from telecommunications links, networks, or modems before you open the unit or follow any procedures described in this section.

⚠ **Failure to disconnect your computer from its power source may result in personal injury or equipment damage. Always turn the power off before you open the computer or connect your computer to peripheral equipment. Otherwise, damage may occur to the integrated circuits.**

Your computer may not be equipped with all of the hardware features mentioned in this section. The interior hardware configuration of your computer may vary from the illustrations, depending on the computer purchased. To view the specific hardware configuration for your computer, see the online specifications sheet.

✍ You may need to temporarily remove add-on cards or other components that may be near the slot cover you plan to remove.

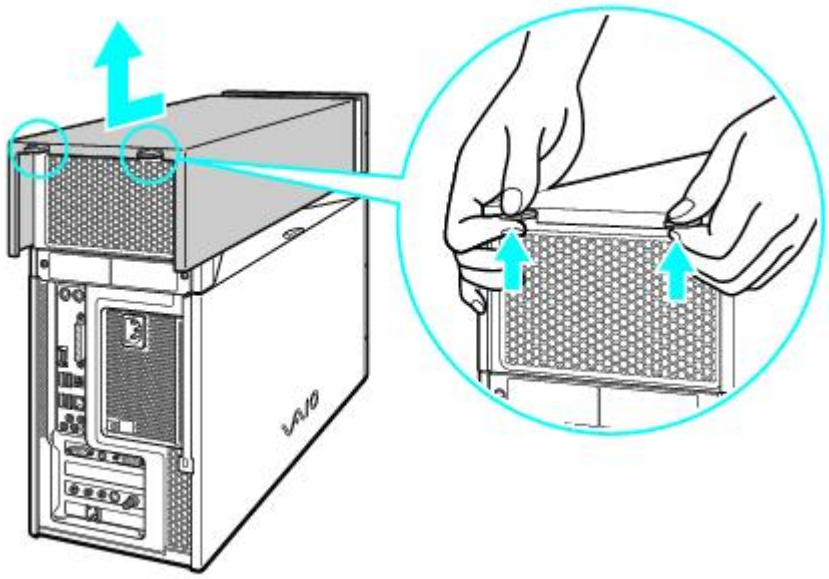
⚠ **Electrostatic discharge (ESD) can damage disk drives, add-on cards, and other components. Follow the procedures described here only at an ESD workstation. If such a station is not available, do not work in a carpeted area and do not handle materials that produce or hold static electricity (for example, cellophane wrappers). Ground yourself by maintaining continuous contact with an unpainted metal portion of the chassis while performing the procedure.**

About Opening the Computer

Removing the top cover

1. Shut down your computer and turn off all peripheral devices, such as your printer.
2. Unplug your computer and disconnect any peripheral devices.
3. Locate the two tabs on the top edge of the back panel.
4. Gently lift these tabs and slide the top cover towards the back of the unit.
5. Lift the top cover up and set aside.

Removing the top cover



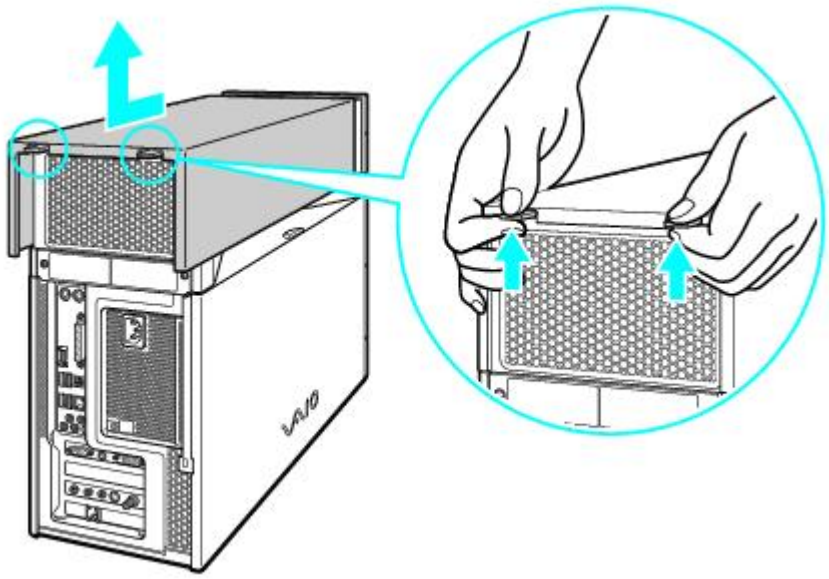
If you open the cover or panels immediately after you shut down your computer, the components may be too hot to touch. Wait until the internal parts of the computer cool down before you attempt to open the unit.

About Opening the Computer

Removing the top cover

1. Shut down your computer and turn off all peripheral devices, such as your printer.
2. Unplug your computer and disconnect any peripheral devices.
3. Locate the two tabs on the top edge of the back panel.
4. Gently lift these tabs and slide the top cover towards the back of the unit.
5. Lift the top cover up and set aside.

Removing the top cover

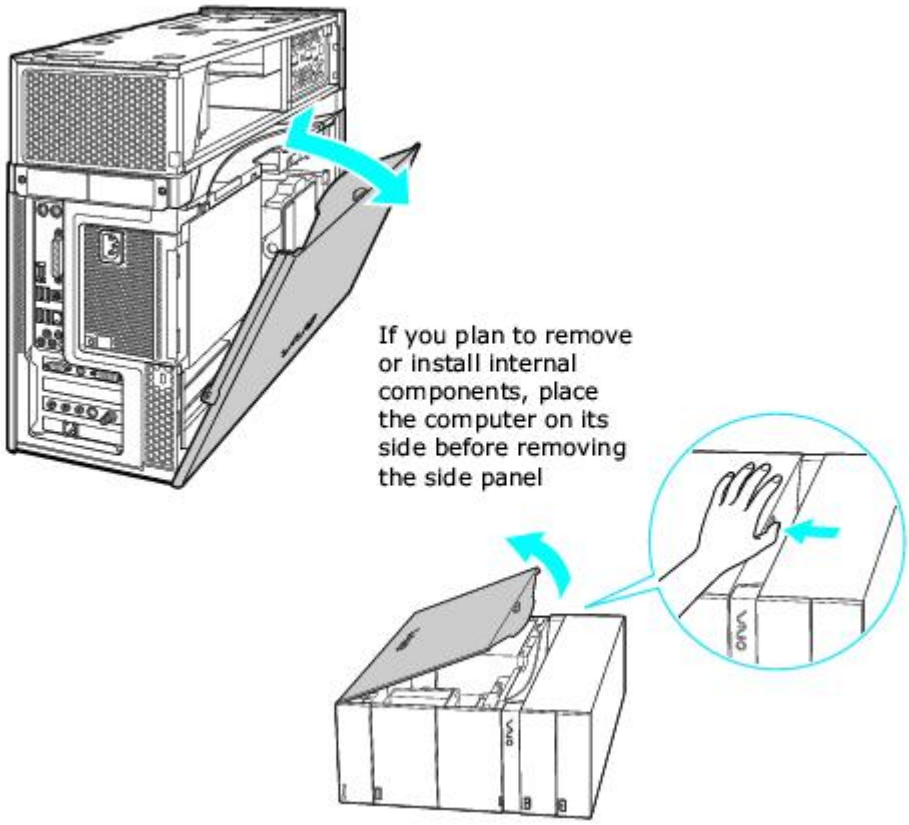


If you open the cover or panels immediately after you shut down your computer, the components may be too hot to touch. Wait until the internal parts of the computer cool down before you attempt to open the unit.

Removing the side panel

1. Shut down your computer and turn off all peripheral devices, such as your printer.
2. Unplug your computer and disconnect any peripheral devices.
3. Press the release button on the top edge of the side panel.

Removing the side panel

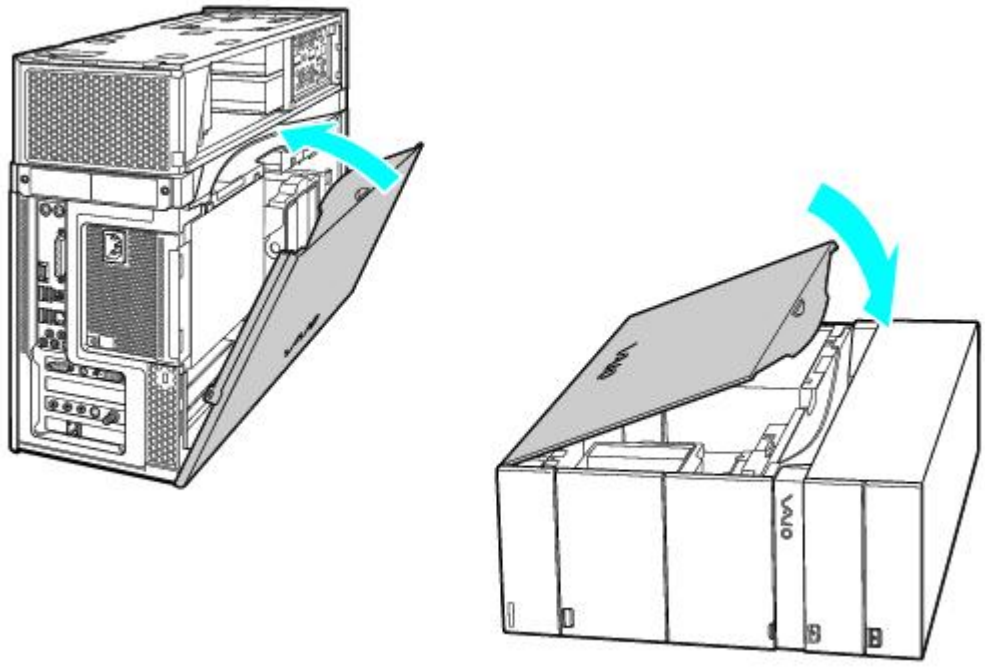


4. Lift the side panel away from the unit and set aside.

Replacing the side panel

1. Align the tabs on the bottom of the side panel to the tracks on the edge of the chassis frame.
2. Gently press the side panel against the chassis, until the release button locks the panel back into place.

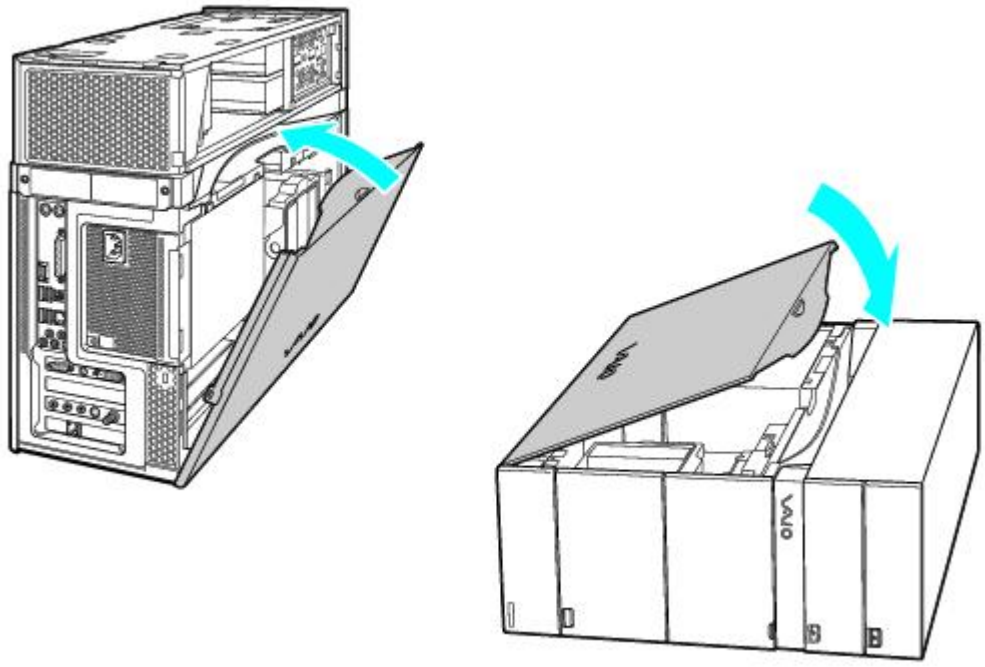
Replacing the side panel



Replacing the side panel

1. Align the tabs on the bottom of the side panel to the tracks on the edge of the chassis frame.
2. Gently press the side panel against the chassis, until the release button locks the panel back into place.

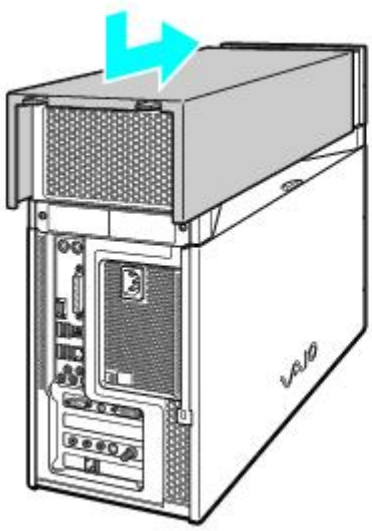
Replacing the side panel



Replacing the top cover

1. Align the tracks on the top cover to the tracks on the chassis frame.
2. Gently slide the top cover forward onto the chassis, until the back panel tabs lock the panel into place.

Replacing the top cover



About Add-on Card Installation

Your computer may have one or more open expansion slots, depending on the model configuration. An expansion slot enables you to install add-on cards to expand the functionality of your computer. The length of the add-on card should not exceed 9.05 inches.

Add-on card configuration varies by model. Some models, such as Configure-to-Order (CTO) computers, may have all expansion slots filled.

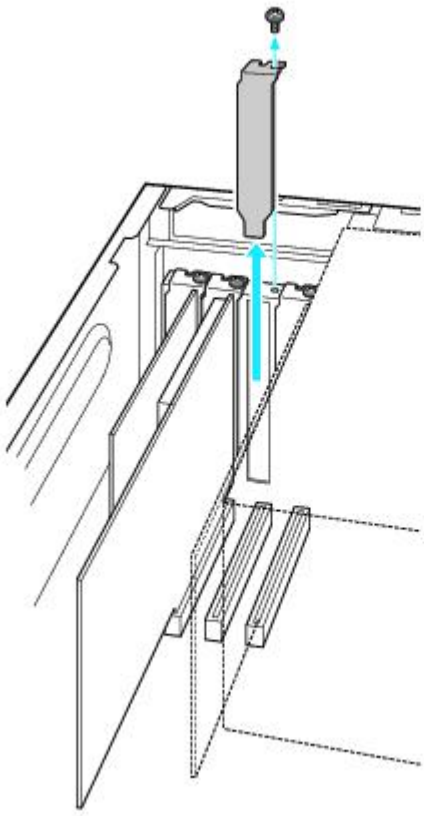
Observe the proper safety precautions when you add cards to your Sony computer. See Before upgrading your computer.

Installing an add-on card

1. Shut down your computer and turn off all peripheral devices, such as your printer.
2. Unplug your computer and any peripheral devices.
3. Gently place the unit on its side and remove the side panel. See About Opening the Computer
4. Locate an available expansion slot. Remove the slot cover's screw, and then remove the slot cover.

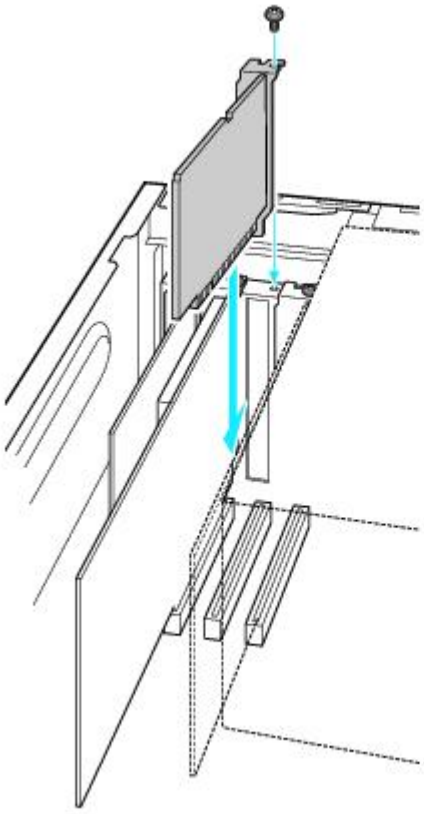
When removing a slot cover, be careful not to damage components on the system board or add-on cards. You may need to temporarily remove add-on cards or other components that may be next to the slot cover you want to remove.

Removing the slot cover



5. Install the add-on card by inserting it into the expansion slot and secure it with the screw from the expansion slot cover.

Installing an add-on card



6. Attach any internal cables that the card requires. See the instructions supplied with the add-on card.
7. Replace the side panel. See About Closing the Computer.
8. Reconnect the power cord and all peripheral devices.
9. Turn on the computer.

Installing Memory

The amount of preinstalled memory may vary, depending on the computer purchased. Your computer may ship with all available memory slots filled. For memory replacement or upgrades, use the correct memory module for your computer's configuration. See the online *Specifications* sheet for details about the memory installed in your computer.

You can purchase additional memory modules, accessories, and peripheral equipment from your local retailer.

Observe the proper safety precautions when you add or remove the memory in your computer. See Before upgrading your computer.

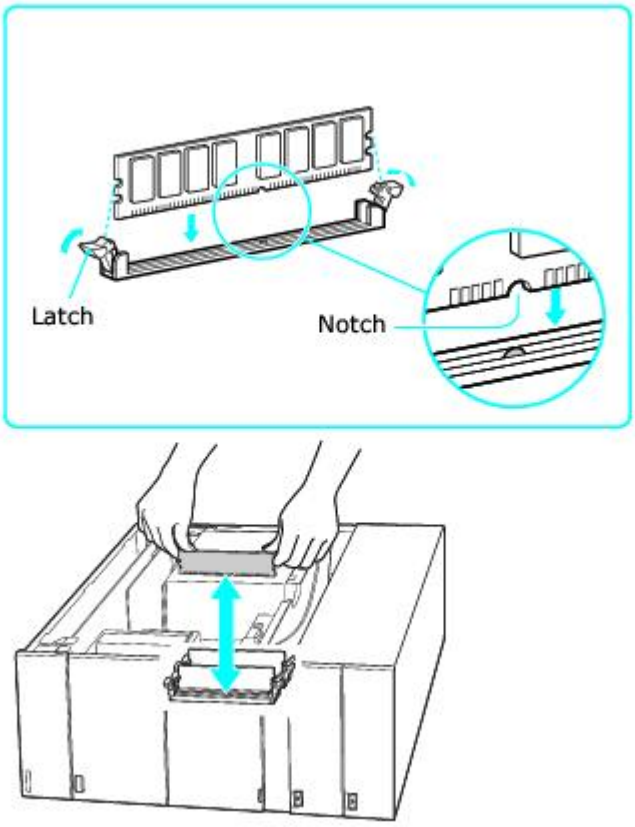
Removing a memory module

1. Shut down your computer and turn off all peripheral devices, such as your printer.
2. Unplug your computer and all peripheral devices.
3. Gently place the unit on its side and remove the side panel. See About Opening the Computer

   If necessary, remove any cables, add-on cards, or other components to access the memory module slots.
4. Locate the memory module(s) you wish to remove.
5. Push down on the latches, located on both sides of the module, to gently eject it from the slot.
6. Grasp one edge of the module and lift it out. Store the module in a static-free bag.

Gently handle the memory module by the sides only. Avoid touching the pins located at the bottom edge of the module.

Removing/Installing memory



Installing a memory module

1. Shut down your computer and turn off all peripheral devices, such as your printer.
2. Unplug your computer and any peripheral devices.
3. Gently place the unit on its side and remove the side panel. See About Opening the Computer

   If necessary, remove any cables, add-on cards, or other components to access the memory module slots.
4. Remove the memory module from its anti-static package, handling it by the the edges.
5. Locate the notch on the bottom edge of the module and align it over the open memory slot.
6. Firmly insert the bottom edge of the memory module into the slot.
7. Press down evenly against the module's upper corners. The end latches snap into position, holding the module in place.

   To avoid damaging a memory module slot, move the end latches slightly outward to relieve pressure. The module clicks into place.
8. Reinstall any components or add-on cards you may have removed.
9. Replace the side panel. See About Closing the Computer.

About the Lithium Battery

The lithium battery starts to weaken after several years and the system settings, such as the date and time stored in CMOS RAM, may become inaccurate. Replace the lithium battery when this occurs.

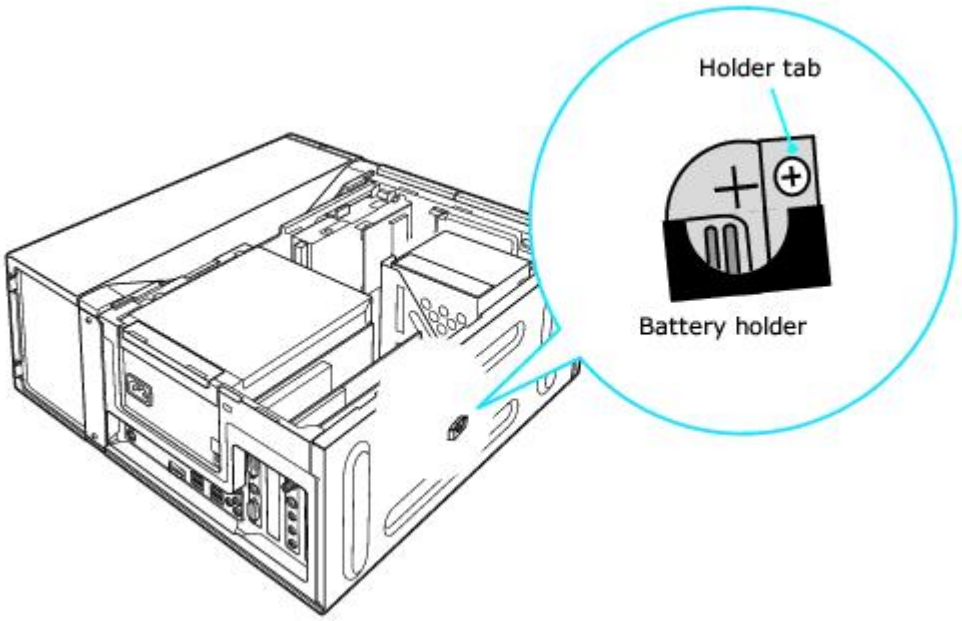
There is danger of the battery exploding if it is replaced incorrectly. Replace the battery only with a CR2032-type lithium battery.

Replacing the lithium battery

1. Write down any changes you may have made to the settings in the BIOS Setup utility.
2. Shut down your computer and turn off all peripheral devices, such as your printer.
3. Unplug your computer and the peripheral devices.
4. Gently place the unit on its side and remove the side panel. See About Opening the Computer

   If necessary, remove any cables, add-on cards, or other components to access the lithium battery.
5. Gently push the battery holder's tab away from the battery and remove the battery from the holder.
6. Install the new battery with the plus (+) side facing the battery holder tab.

Installing a lithium battery



7. Replace the side panel. See About Closing the Computer.

The values stored in the CMOS memory are now reset to the factory default values. Run the Setup utility to reset the date, time, passwords, and other changes you may have made to the BIOS settings. If you do not wish to customize your BIOS settings, do not run the Setup utility.

⚠ **Dispose of the lithium battery properly. In some areas, the disposal of lithium batteries in household or business trash may be prohibited. You can return your unwanted lithium batteries to your nearest Sony Service Center or Factory Service Center. To locate a Service Center near you, visit the Sony online support Web site at http://www.sony.com/pcsupport.**

Resetting the computer's date and time

To reset your computer's date and time:

1. Double-click the time readout displayed in the Windows® Taskbar Notification area. The **Date and Time properties** window appears.

2. From the **Date & Time** tab, change the settings as desired. Click **Apply**, and then click **OK**.

About Hard Disk Drive Installation

Your computer may be equipped with open internal bays to hold additional 3.5-inch hard disk drives. When you install an additional hard disk drive, the method of attaching connectors and cables may be different from the instructions described in this section. Review the manufacturer's information provided with your new hard disk drive before attempting to install it in your computer.

✍ Certain models are configure-to-order (CTO) computers that may already have additional hard disk drives installed that support the Redundant Array of Independent Disks (RAID) technology. See the About RAID Systems section.

The installation information provided in this section may not apply if you have purchased a VAIO® computer that supports RAID.

Replacing the original hard disk drive

If you replace the original, factory-installed hard disk drive, you may need to correct your drive mapping, create a VAIO Recovery Media Kit, or visit the Sony online support Web site for more information.

About drive mapping

When a new hard disk drive is installed, the original drive mapping[1] may be changed. The identified drives, including those for removable media[2], may not reflect correct drive/icon associations. For more information on how to correct your drive mapping, visit the Sony online support Web site at http://www.sony.com/pcsupport.

About hard disk drive recovery

When you replace the original hard disk drive, the preinstalled VAIO Recovery Wizard utility program cannot restore the drive partitions, operating system, or original software programs. Before replacing the hard disk drive, create a VAIO Recovery Media Kit or purchase a kit from Sony.

Your VAIO® computer is not supplied with System or Application Recovery CDs. Use the VAIO Recovery Wizard utility to recover your computer's operating system and preinstalled software programs.

For more information about the VAIO Recovery Wizard utility program:

1. Click **Start** from the Windows® taskbar, and then click **Help and Support**.
2. From the **VAIO Help and Support Center**, click **VAIO Recovery Options**.

Observe the proper safety precautions when you upgrade your Sony computer. See Before upgrading your computer.

Drive letter assignment

When a new hard disk drive is installed, an identifying drive letter is assigned. The drive letter assignment becomes effective after you register for the first time or after recovering your computer with the VAIO® Recovery Wizard utility program.

The Click to DVD software program creates a new folder location on the new hard disk drive. This new folder is the default location to save files created with Click to DVD software.

- If the Microsoft® Windows® operating system identifies the new hard disk drive as drive D, the Click to DVD software program saves its files to a new folder on the new drive D.
- If the Windows operating system assigns another letter to the new hard disk drive, such as drive E or J, the Click to DVD software program creates the new save folder on the new drive.

When you start Click to DVD software for the first time, after recovering the computer or installing a new hard disk drive, the software program automatically creates a new save folder on the new drive.

Before you install a new hard disk drive

- If your computer is equipped with a Serial ATA (SATA) hard disk drive, you do not need to configure the new drive.
- The instructions provided here do not apply, if you want to set up a RAID configuration.
- Follow the configuration instructions supplied with your new hard disk drive.
- See your computer's specifications sheet for details about the installed hard disk drive.

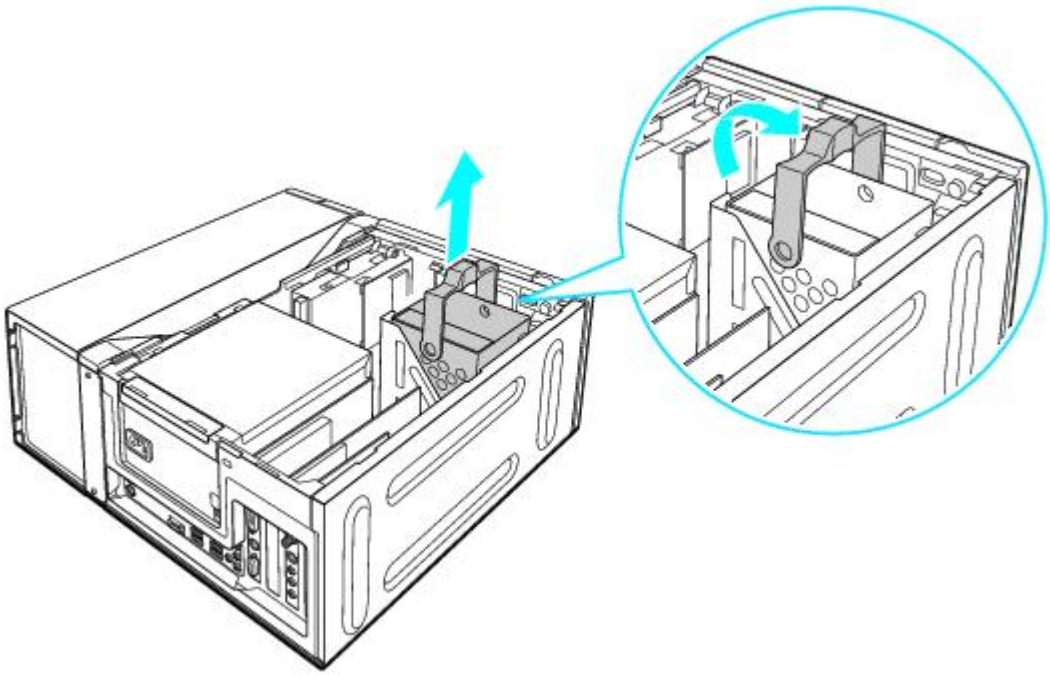
[1] Drive mapping refers to the assignment of an identifying letter to a specific drive, such as Drive C or Drive D which identify the original hard disk drive.

[2] Your computer may be equipped with other memory card readers, for media such as Memory Stick®, SD media, CompactFlash®, or Microdrive cards. See the online Specification sheet for more information about your computer's memory card reader configuration.

Installing an additional hard disk drive

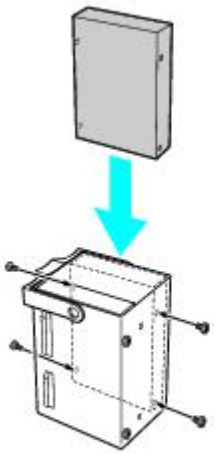
1. Shut down your computer and turn off all peripheral devices, such as your printer.
2. Unplug your computer and any peripheral devices.
3. Gently place the unit on its side and remove the side panel. See About Opening the Computer
4. Detach the power and interface cables from the original hard disk drive that is preinstalled in your computer.
5. Unlock the drive holder from the chassis by lifting the drive holder handle straight out from the unit.
6. Use the handle to slide the drive holder out.

Removing the drive holder



7. Slide the new drive into the drive holder and align the holes on each side of the drive bay.
8. Secure the drive to the drive holder with screws, through the holes on each side of the drive holder.

Attaching the drive screws

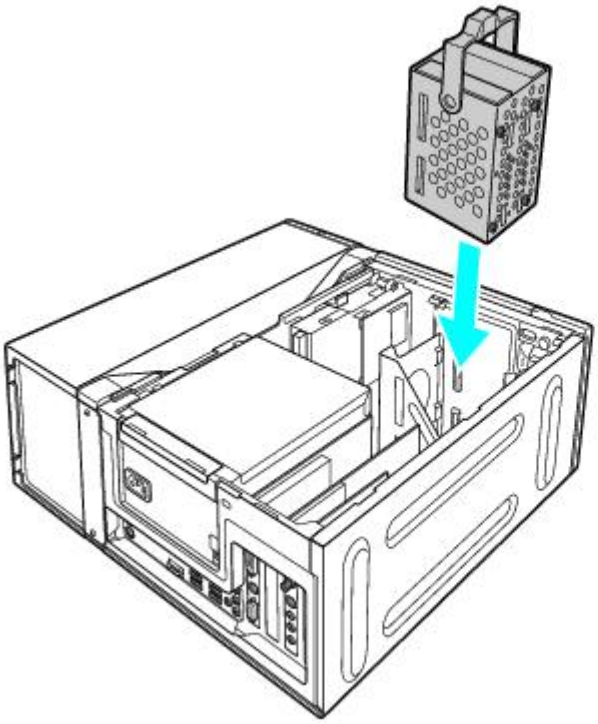


✍ Your new hard disk drive is supplied with the necessary screws. Do not overtighten these screws when securing the drive to the drive holder.

9. Align the drive holder with the tracks on the inside of the chassis. Slide the drive holder in completely.

10. Push the drive holder handle down to lock the drive into position.
11. Reconnect the SATA and power connectors to the original drive.
12. Connect another SATA interface cable between the new drive and an unused SATA port on the motherboard.
13. Connect the second power connector to the new drive following the instructions supplied with the drive.

Replacing the drive holder



14. Replace the side panel. See About Closing the Computer.
15. Reconnect the power cord to your computer.

The hard disk drive access light blinks when either internal hard disk drive is active.

Identifying the additional hard disk space

When you initialize the new hard disk, it must be configured as an extended partition in Windows NT file system (NTFS) format.

1. Log on to Windows® as Administrator.
2. Click **Start** in the Windows taskbar, then right-click **My Computer**. A shortcut menu appears.
3. Select **Manage**. The Computer Management window appears.
4. Under the file directory on the right, go to **Storage** and then select **Disk Management**.
5. Right-click on the newly installed, unformatted hard disk (Disk label identified with red marking). From the shortcut menu, select **Initialize Disk**.
6. Click on the Unallocated area of the disk and then right-click to display a shortcut menu.
7. Select **New Partition**. The New Partition wizard appears.
8. Follow the wizard's on-screen instructions to complete the process.

The Windows® XP operating system recognizes the new hard disk drive and applies the NTFS format.

About RAID Systems

When multiple hard disk drives are combined, they can provide an affordable answer to your VAIO® computer's performance or security requirements. This solution is called a Redundant Array of Independent Disks[1] (RAID). RAID or RAID-ready capability is available **only for configure-to-order (CTO) computer systems**. See your computer's specifications sheet for details on your computer's hardware configuration.

- A RAID Overview
- About RAID Levels
- Configuring a RAID Array
- RAID Glossary

[1] Also known as "Redundant Array of Inexpensive Disks".

A RAID Overview

If you have purchased a configure-to-order (CTO) VAIO® computer with one of the following options:

- **RAID-0** —Your computer is configured for RAID-0 and has two or more preinstalled S-ATA hard disk drives.
- **RAID-ready** —Your computer has RAID capability and requires you to install one or more S-ATA hard disk drives.

In either situation, you can:

- Install and configure hard disk drives for RAID-0 or RAID-1.
- Change the existing RAID configuration to RAID-0 or RAID-1.
- Remove the RAID configuration completely.

Your VAIO computer's drive bay can accommodate a total of four S-ATA hard disk drives. If you are installing your own equipment, Sony suggests using hard disk drives that are identical in size and manufacture.

Reasons for using a RAID array system

When hard disk drives are grouped together in a RAID array, they are configured, formatted, and managed to perform in a specific way. Your computer's data is spread across these drives in a manner that determines the level of RAID performance and protection. The level of RAID protection and redundancy determines the capacity of the array, the security of your data, and the quality of your computer's overall performance.

✍ To aid your understanding of RAID terminology, see the RAID Glossary.

You may decide that a RAID array meets your needs when:

- Your computer's data needs increased fault tolerance to protect against interruptions or hardware failure.
- Your computer performs intensive work, such as video or graphics design, and require improved computing speed.

RAID array organization

A single hard disk drive has two basic functions — writing and reading data. These functions are handled differently when using a RAID array.

A RAID array is organized from the physical drives into a physical array. (The hard disk drives are combined into the array.) These physical arrays are then formatted into a single, logical drive, which communicates with your computer. This organization enables your computer to use the RAID array as a single hard disk drive.

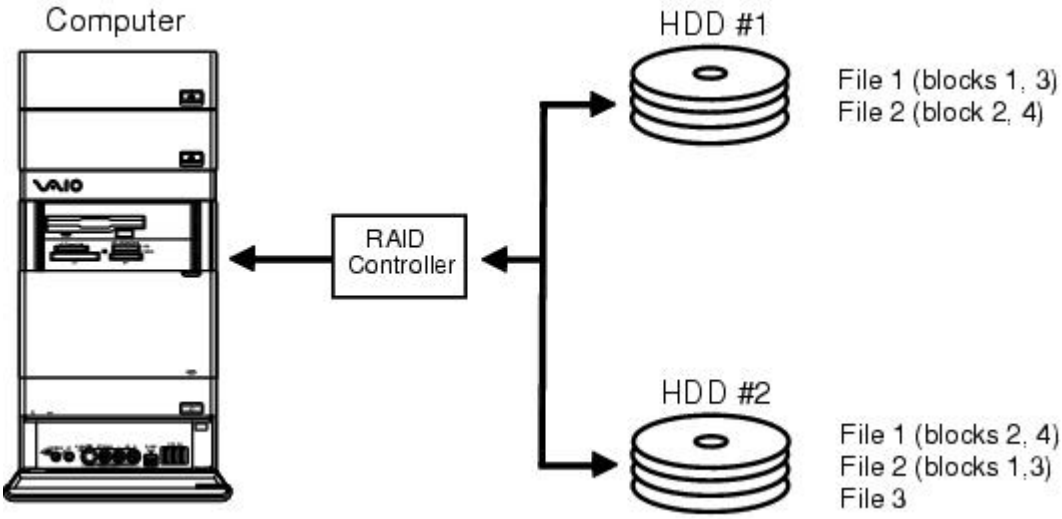
About RAID Levels

RAID is intended to protect data and create fault tolerance. Important factors such as availability, reliability, fault tolerance, and performance, are essential to selecting a RAID level that meets your computing needs.

RAID-0

This RAID level uses striping without parity. Striping breaks data into small pieces and then simultaneously writes or reads to multiple locations. This increases your computer's performance and data storage capacity.

RAID-0: Striping without parity



Best uses for RAID-0

This RAID level is appropriate for situations where read/write performances is more important than data security. Some examples are environments that use high bandwidth software programs for video production, video editing, or pre-press production.

RAID-0 limitations

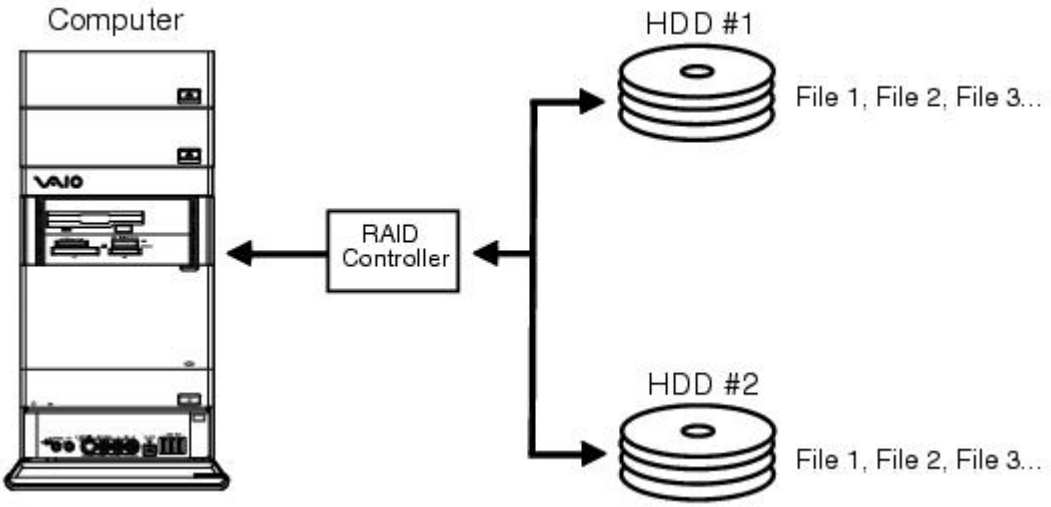
RAID-0 does not provide fault tolerance. All computer data on the array is lost if a single drive in the physical array fails. This RAID level is not a true RAID configuration, as it does not provide redundancy. When using a RAID-0 array, your data storage capacity may be increased, but is limited to twice the size of the smallest hard disk drive in the array. As an example, if your array uses a 60 GB drive and a 20 GB drive, your total hard disk drive volume is 40 GB.

RAID-1

This RAID level uses mirroring. Mirroring writes all data onto each hard drive in the RAID array, in exactly the same way. Your computer's reading performance is improved, while writing performance is slower, in comparison to a single hard disk drive. RAID-1 is the simplest redundant array to set up, as only two hard disk drives are required. Full fault tolerance is provided in the event of a single hard disk drive failure, as all data is still available in the other, mirrored hard disk drive.

If a single hard disk drive fails (RAID-1), the remaining, functioning hard disk drive continues to operate without fault tolerance until the failed drive is replaced and mirroring is restored.

RAID-1: Mirroring



Best uses for RAID-1

RAID-1 is appropriate for situations where data availability and performance are important. In environments where finance or payroll software programs are used, fault tolerance may be more important than capacity.

RAID-1 limitations

A RAID-1 (mirrored) volume is approximately the size of the smaller hard disk drive. This may not be a cost-effective solution, if data storage capacity is a concern. Your computer's write performance is slower, because two write commands are generated to direct the data to two separate hard disk drive locations.

Configuring a RAID Array

Certain VAIO® computers are available for purchase as RAID-0 or RAID-ready. The number of preinstalled S-ATA hard disk drives can vary, depending on the hardware configuration purchased. These computers are configured-to-order (CTO), based on your hardware requirements. See your computer's specification sheet for details about your specific hardware configuration.

If you purchase a RAID-0 computer:

- You can change the RAID-0 configuration to RAID-1.
- You can remove RAID configuration completely and use each individual drive separately.

If you purchase a RAID-ready computer:

- You can install an additional drive(s) and set up a RAID-0 or RAID-1 configuration.
- You can choose to use any additional drive(s) as a separate drive, without RAID configuration.

If you have purchased a RAID-ready computer that does not have additional hard disk drives preinstalled, install the additional S-ATA hard disk drives* required to enable RAID capability. See the instructions provided in the About Hard Disk Drive Installation section.

* Use identical hard disk drives, if possible.

Before getting started

- Back up your computer's data to external media. Creating, altering, or configuring for RAID deletes all data from affected hard disk drives.
- Create a **VAIO Recovery Media Kit**, so that you can configure the RAID volumes, and perform a hard disk drive recovery.

  For more information about creating recovery media using the VAIO Recovery Wizard utility program:

  1. Click **Start** from the Windows® taskbar, and then click **Help and Support**.
  2. From the **VAIO Help and Support Center**, click **VAIO Recovery Options**.

- Verify the status of the existing hard disk drive(s) before creating or changing the RAID volume. Use the Intel® Storage Utility software program to check drive. See the section, About the Intel Storage Utility program.

The VAIO Recovery Wizard utility program can configure the first two hard disk drives into a RAID-0 (striped) or RAID-1 (mirrored) volume. (Hard disk drives are installed in port-0 and port-1). Use the Intel® Application Accelerator (IAA) feature of the Intel Storage Utility software program, to configure any additional drives. See the section, About the Intel Storage Utility program.

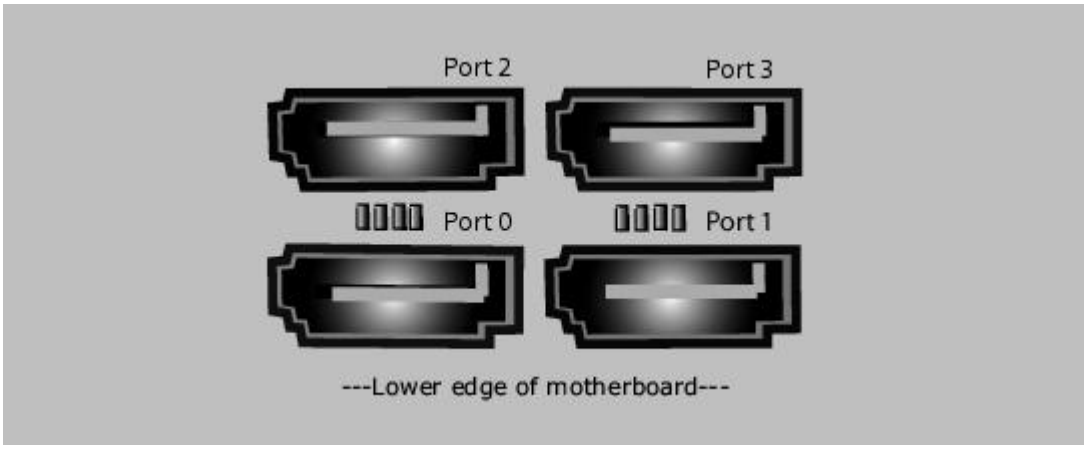
Installing additional hard disk drives

If you have purchased a RAID-ready computer, you may be required to install an additional drive(s). You can find details about installing additional hard disk drives in the About Hard Disk Drive Installation section.

1. Place all S-ATA hard disk drives into the drive holder inside the computer's chassis.

2. Connect one end of the S-ATA data cable(s) to the S-ATA connection, starting with Port-0 on the motherboard. Connect the data cables of any additional drives to Ports 1, 2, and then 3.

Motherboard - detail



3. Connect the other end of the S-ATA data cable(s) to the corresponding S-ATA hard disk drive.

4. Connect the S-ATA power cable(s) to the corresponding S-ATA hard disk drive.

   If your hard disk drive is equipped with two power connectors, connect the S-ATA power cable. See the information supplied with your hard disk drive for details on proper power connections.

When all additional hard disk drives are installed, you are ready to configure the RAID volume. See the About RAID Levels section for brief descriptions of RAID-0 and RAID-1 levels.

Using the RAID Configuration Wizard

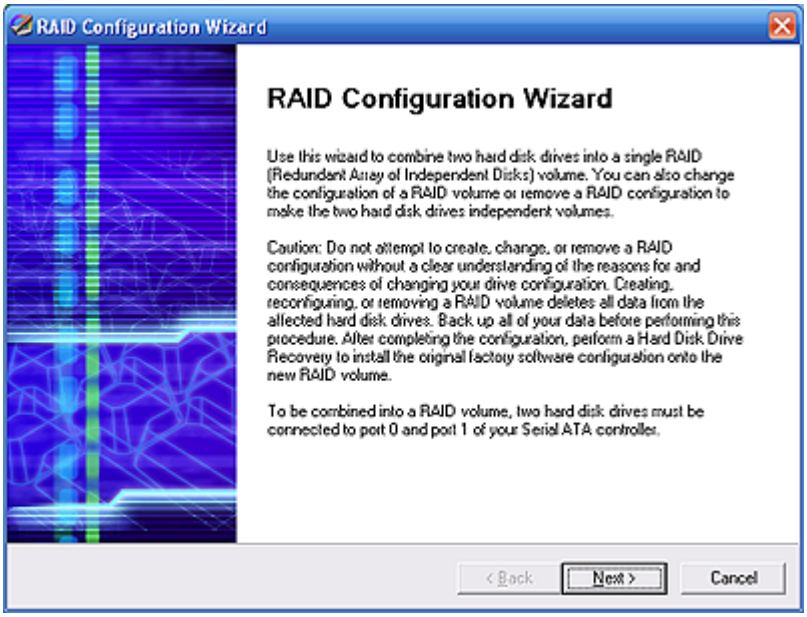
The RAID Configuration Wizard can configure two installed hard disk drives for RAID-0 or RAID-1 levels. You can also use the RAID Configuration Wizard to change your computer's RAID array to RAID-0 or RAID-1.

1. Press the power switch on the computer to turn on the computer.
2. Open the optical drive, and place the **Startup Recovery Disc** from the Recovery Media Kit into either optical drive.
3. Close the drive and turn off your computer.
4. Wait approximately 30 seconds, and then turn on the computer again.
5. When prompted, insert **Recovery Disk 1** into the optical drive, and then click **OK**.

   The **VAIO Recovery Wizard** appears.
6. Click **Next**.
7. Select **Custom Recovery (for Advanced Users)**, and click **Next**.
8. Select **RAID Configuration**, and click **Next**.

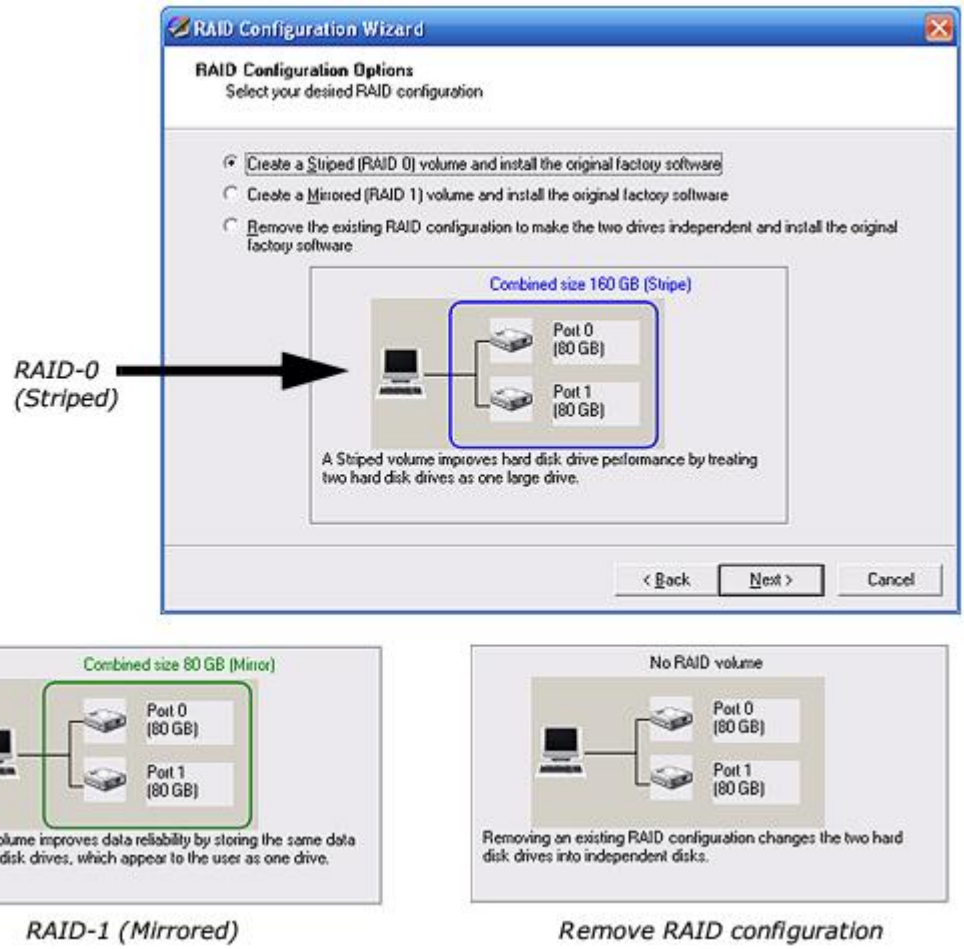
   The **RAID Configuration Wizard** appears.

RAID Configuration Wizard


RAID Configuration Wizard
RAID Configuration Wizard
Use this wizard to combine two hard disk drives into a single RAID (Redundant Array of Independent Disks) volume. You can also change the configuration of a RAID volume or remove a RAID configuration to make the two hard disk drives independent volumes.
Caution: Do not attempt to create, change, or remove a RAID configuration without a clear understanding of the reasons for and consequences of changing your drive configuration. Creating, reconfiguring, or removing a RAID volume deletes all data from the affected hard disk drives. Back up all of your data before performing this procedure. After completing the configuration, perform a Hard Disk Drive Recovery to install the original factory software configuration onto the new RAID volume.
To be combined into a RAID volume, two hard disk drives must be connected to port 0 and port 1 of your Serial ATA controller.
< Back
Next >
Cancel

9. Click **Next**. The **RAID Configuration Options** window appears.

RAID Configuration Options


RAID Configuration Wizard
RAID Configuration Options
Select your desired RAID configuration
Create a Striped (RAID 0) volume and install the original factory software
Create a Mirrored (RAID 1) volume and install the original factory software
Remove the existing RAID configuration to make the two drives independent and install the original factory software
Combined size 160 GB (Stripe)
Port 0 (80 GB)
Port 1 (80 GB)
A Striped volume improves hard disk drive performance by treating two hard disk drives as one large drive.
< Back
Next >
Cancel
RAID-0 (Striped)
Combined size 80 GB (Mirror)
Port 0 (80 GB)
Port 1 (80 GB)
A Mirrored volume improves data reliability by storing the same data on two hard disk drives, which appear to the user as one drive.
RAID-1 (Mirrored)
No RAID volume
Port 0 (80 GB)
Port 1 (80 GB)
Removing an existing RAID configuration changes the two hard disk drives into independent disks.
Remove RAID configuration

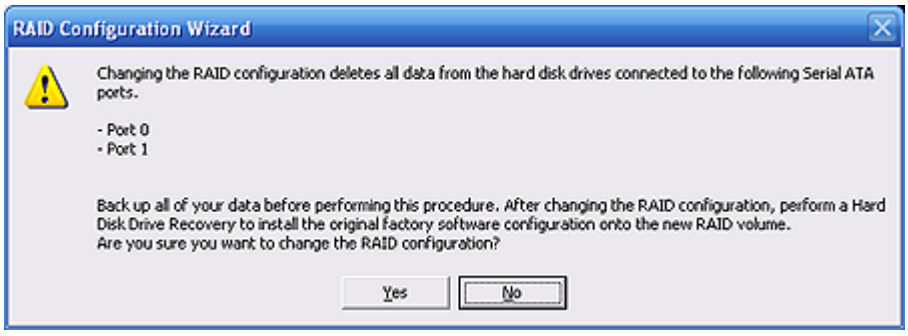
If you are using hard disk drives that vary in size, note that the RAID configuration is set to the size of the smallest drive.

10. Select one of the three options, and click **Next**.

    A final confirmation message appears.

If you have not performed a back up of your computer's data, or you do not want to continue with the RAID configuration, respond to the final confirmation message by clicking "No" and exit the wizard. See the section, Before getting started, for advice on how to prepare for RAID configuration.

RAID Configuration Wizard - Final confirmation message


RAID Configuration Wizard
Changing the RAID configuration deletes all data from the hard disk drives connected to the following Serial ATA ports.
- Port 0
- Port 1
Back up all of your data before performing this procedure. After changing the RAID configuration, perform a Hard Disk Drive Recovery to install the original factory software configuration onto the new RAID volume.
Are you sure you want to change the RAID configuration?
Yes
No

11. Click **Yes** to configure your RAID array.

12. Do not remove the VAIO Recovery Media Kit disc from your computer's optical disc drive. Click **Restart** to start the VAIO Recovery Wizard utility program.

    See the Using the VAIO Recovery Wizard utility program section for more information.

Using the VAIO Recovery Wizard utility program

A complete hard disk drive recovery restores the original, factory settings and recovers all of the preinstalled software programs.

1. From the **VAIO Recovery Wizard** main window, click **Next**.
2. Select **Custom Recovery (for Advanced Users)**, and click **Next**.
3. Select either option, as shown below, and then click **Next**.
   - **Complete Recovery with the Recovery Drive (Recommended)**
   - **Complete Recovery without the Recovery Drive**
4. If installation messages and prompts appear, follow the instructions provided by each installation wizard and respond to each prompt or message.

   Your computer may restart during this process.
5. When the optical disc drive opens, remove the disc and close the drive door. Click **Next**.

   Your computer may restart several times before it becomes available for use.

About the Intel Storage Utility program

You can find information about RAID volume configuration in the Intel® Storage Utility program. This utility program contains the Intel® Application Accelerator RAID edition feature.

Locating the Intel Storage Utility program

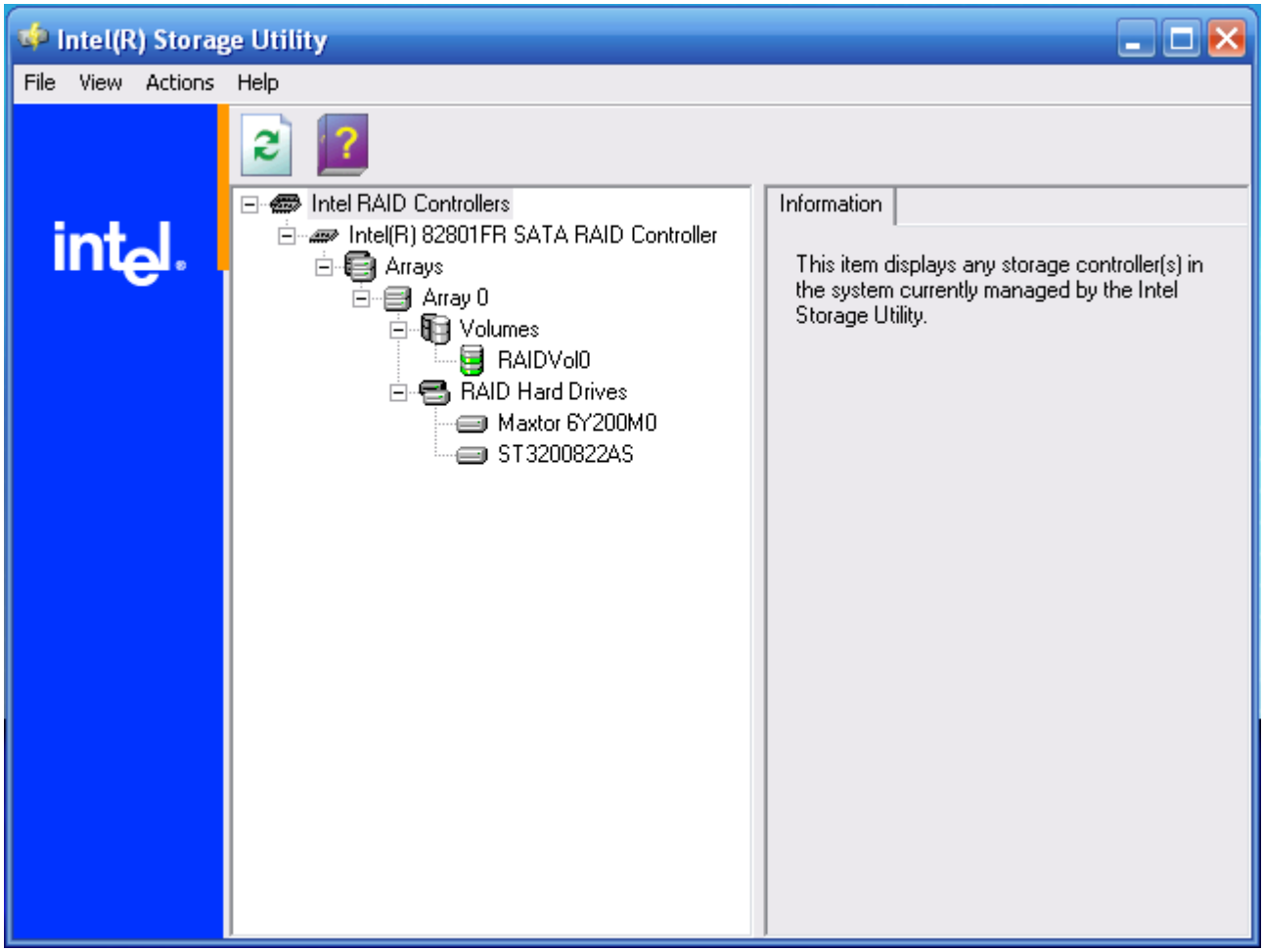
1. Click **Start** from the Windows® taskbar, and then click **Control Panel**.
2. From the **Control Panel** window, click

.
3. From the **Performance and Maintenance window**, click

.

   The Intel® Storage Utility main window appears.

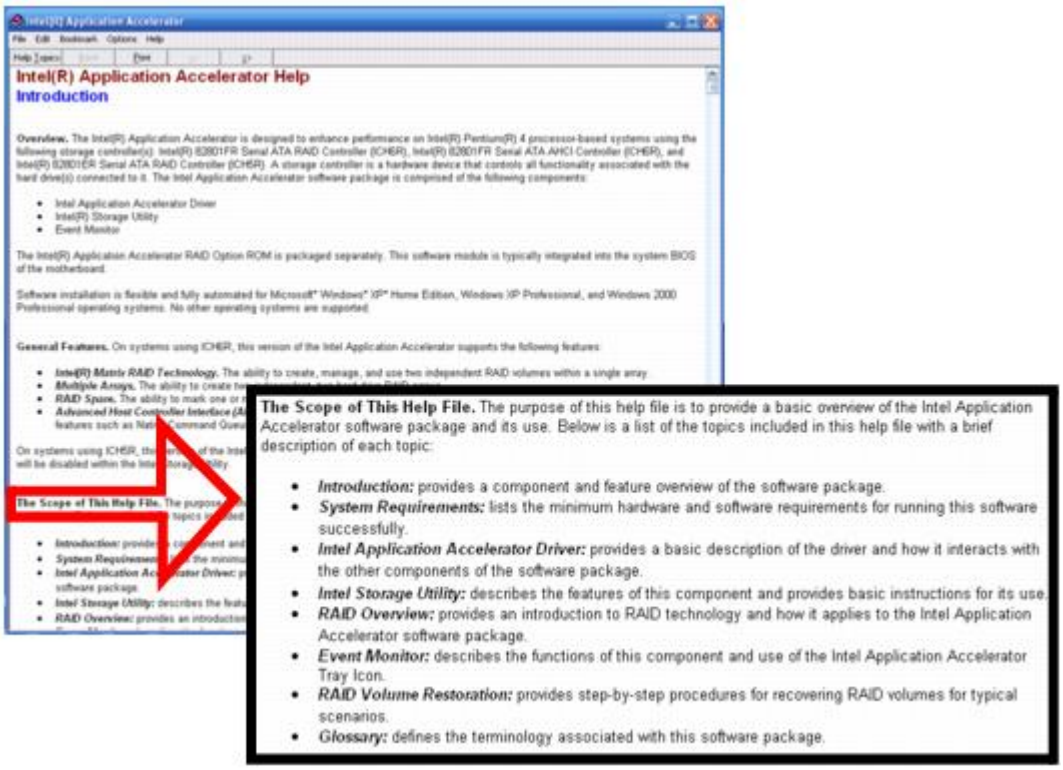
Intel® Storage Utility



4. Click to open **Help**.

   The **Intel® Application Accelerator Help** introduction window appears.

Intel® Application Accelerator Help


Intel(R) Application Accelerator Help
Introduction
The Scope of This Help File. The purpose of this help file is to provide a basic overview of the Intel Application Accelerator software package and its use. Below is a list of the topics included in this help file with a brief description of each topic:
Introduction: provides a component and feature overview of the software package.
System Requirements: lists the minimum hardware and software requirements for running this software successfully.
Intel Application Accelerator Driver: provides a basic description of the driver and how it interacts with the other components of the software package.
Intel Storage Utility: describes the features of this component and provides basic instructions for its use.
RAID Overview: provides an introduction to RAID technology and how it applies to the Intel Application Accelerator software package.
Event Monitor: describes the functions of this component and use of the Intel Application Accelerator Tray Icon.
RAID Volume Restoration: provides step-by-step procedures for recovering RAID volumes for typical scenarios.
Glossary: defines the terminology associated with this software package.

The Intel® Application Accelerator Help file provides basic information on setting up additional hard disk drives as a RAID array. You can find more information on this topic at http://support.intel.com/support/go/iaa/kb_r.htm.

RAID Glossary

This glossary contains some basic terms that may aid your understanding of RAID technology.

Term	Definition
Array	Two or more hard disk drives that are grouped together and function as a single drive to the host computer.
Fault tolerance	The ability of a computer to continue its function, even after one or more hard disk drives have failed.
Intel® Application Accelerator RAID edition (IAA)	Software program that replaces the original ATA drivers provided with the Microsoft® Windows® operating system. The IAA replacement drivers are optimized for computers using certain Intel® chipsets.
Logical drive	Two or more hard disk drives that are grouped together so that they appear and function as a single or logical drive to the host computer.
Mirrored/Mirroring	All data on a primary hard disk drive is duplicated on a secondary drive, to provide data protection.
Parity	A type of data protection that uses verification to detect errors in data.
Physical drive	The actual hard disk drive.
RAID	An acronym for "Redundant Array of Independent Disks". This method of combining small, inexpensive hard disk drives offers advantages for data availability, equipment cost, and system performance.
RAID-0	See "Striped/Striping"
RAID-1	See "Mirrored/Mirroring"
Redundant (Information Technology use)	Additional computer components, such as hard disk drives, that are installed to back up the primary resources in case of failure.
S-ATA	An acronym for "Serial Advanced Technology Attachment." This is a standard uses serial signaling technology and is used for connecting hard disk drives into computers.
Striped/Striping	Data is spread evenly over multiple hard disk drives for improved system performance. There is no data protection.

Troubleshooting

This section describes how to solve common problems and provides helpful information about using your computer's hardware features and preinstalled software. Your computer may not be equipped with all of the features or software discussed in this section, depending on the computer model or configuration purchased.

- About VAIO Computer Functions
- About System Security
- About Media Center
- About Giga Pocket Personal Video Recorder
- About the Mouse and Keyboard
- About the Modem
- About the Speakers
- About Using a Microphone
- About Using Peripheral Equipment

My computer does not start.

- Verify that the computer is plugged into a power source and that it is turned on. Check that the power indicator is lit on the front panel of the computer.
- Confirm that a disk is not in the floppy disk drive[1] (unless you are using a bootable floppy disk).
- Confirm that a CD or DVD is not in an optical drive (unless you are using bootable media).
- Confirm that the power cord and all cables are connected firmly.
- If you plugged the computer into a power strip or Uninterruptible Power Supply (UPS), make sure the power strip or UPS is turned on and working.
- Verify that the monitor is plugged into a power source and turned on.

  If your computer has a built-in monitor, confirm that it is plugged into an appropriate power source and that the computer is turned on.
- Verify that the brightness or contrast control dials are adjusted correctly. (See the manual supplied with your display for details.)
- Confirm that the computer is not in Stand by mode by pressing any key on the keyboard.

[1] Certain VAIO computers are not equipped with a floppy disk drive. You can purchase this equipment separately.

My computer does not start.

- Verify that the computer is plugged into a power source and that it is turned on. Check that the power indicator is lit on the front panel of the computer.
- Confirm that a disk is not in the floppy disk drive[1] (unless you are using a bootable floppy disk).
- Confirm that a CD or DVD is not in an optical drive (unless you are using bootable media).
- Confirm that the power cord and all cables are connected firmly.
- If you plugged the computer into a power strip or Uninterruptible Power Supply (UPS), make sure the power strip or UPS is turned on and working.
- Verify that the monitor is plugged into a power source and turned on.

  If your computer has a built-in monitor, confirm that it is plugged into an appropriate power source and that the computer is turned on.
- Verify that the brightness or contrast control dials are adjusted correctly. (See the manual supplied with your display for details.)
- Confirm that the computer is not in Stand by mode by pressing any key on the keyboard.

[1] Certain VAIO computers are not equipped with a floppy disk drive. You can purchase this equipment separately.

What can I do if my computer or software stop responding?

You can try to locate and close the software program that has stopped responding.

1. Press the **Ctrl+Alt+Delete** keys. The **Windows Task Manager** window appears.
2. From the Applications tab, locate the software program that has the status message, "**Not responding**."
3. Select the software program that has a **Not Responding** status and click **End Task**. Windows attempts to close the program.

If your computer does not respond or the software program does not close:

1. Save and close any open files, if possible.
2. Press the **Alt+F4** keys. The **Shut Down Windows**[1] window appears.
3. Click the drop-down list box and select **Restart**.
4. Click **OK**. The computer turns off and restarts.

   If the **Shut Down Windows** window does not appear:

   1. Press **Ctrl+Alt+Delete**. The **Windows Task Manager** window appears.
   2. Click **Shut Down**.
   3. Restart your computer.

If your computer still does not respond and you cannot restart, shut down your computer by pressing and holding the power button for more than six seconds.

If the software program continues to stop responding or causes your computer to stop responding, contact the software publisher or designated technical support provider.

Pressing and holding the power button for more than six seconds may result in the loss of data from files that are currently open.

[1] The window text displayed may vary.

Why does the Windows operating system stop responding during shutdown?

The Windows operating system may not shut down properly for many reasons, including incompatible or conflicting drivers, damaged files, or non-responsive hardware. For troubleshooting information, you can search Windows Help.

1. Click **Start** in the Windows taskbar and select **Help and Support**. The **VAIO Help And Support Center** menu appears.

2. Select **Fixing a Problem** and then select **Startup and Shut Down problems**. A list of specific problem topics appears on the right side of the window.

3. Select **Startup and Shutdown Troubleshooter**. Follow the on-screen instructions according to your specific situation.

Why is my computer running slowly?

- The computer's responsiveness varies depending with the number of software programs that are open and running. Close any programs that you are not currently using.
- Increasing the computer memory may also help. For information on installing memory, please see the online VAIO User Guide.

  To access the online User Guide:

  1. Click **Start** in the Windows taskbar, and then click **Help and Support**.
  2. From the **VAIO Help And Support Center** menu, click **VAIO User Guide**.

How do I change the video resolution of my display?

1. Click **Start** in the Windows taskbar, and then select **Control Panel**.
2. Select **Appearance and Themes**, and then select **Change the screen resolution**.
3. Click the **Settings** tab.
4. Change the Screen resolution and Color quality to the desired levels.
5. Click **Apply** and then click **OK**.

Why doesn't my computer resume normal operation from Stand by mode?

- If your keyboard has a Stand by key , press it briefly to resume normal operation.
- If your keyboard is not equipped with a Stand by key, press any key to resume normal operation.
- For troubleshooting information, you can search Windows Help.

1. Click **Start** in the Windows taskbar and select **Help and Support**. The **VAIO Help And Support Center** menu appears.
2. Select **Fixing a Problem** and then select **Startup and Shut Down problems**. A list of specific problem topics appears on the right side of the window.
3. Select **Startup and Shutdown Troubleshooter**. Follow the on-screen instructions according to your specific situation.

About System Security

This section provides information about keeping your computer operating smoothly and protecting against potential threats to your computer's security.

How can I protect my computer against security threats, such as viruses?

The Microsoft® Windows® operating system is preinstalled on your computer. The best way to protect your computer against security threats, such as viruses, is to download and install the latest Windows updates regularly.

You can get important Windows updates by doing one of the following:

- **The Automatic Updates** feature — This feature automatically searches for and delivers updates directly to your computer whenever you are connected to the Internet.
- **The Windows Updates Web site** — This site enables you to download computer updates without turning on the **Automatic Updates** feature.

Your computer must be connected to the Internet before you can receive updates.

To use the Automatic Updates feature

1. Connect to the Internet.
2. Click the **Automatic Updates** icon in the Taskbar notification area.

   The **Automatic Updates Setup Wizard** appears.
3. Click **Next**, and follow the on-screen instructions to set up automatic or scheduled updates.

To visit the Windows Updates Web site

1. Connect to the Internet.
2. Type http://windowsupdate.microsoft.com/ in the address bar of your browser.

   The **Microsoft Windows Update** and **Security Warning** windows appear.
3. In the **Security Warning** window, click **Yes to install and run Windows Update.**
4. In the **Microsoft Windows Update** window, click **Scan for updates**, and follow the on-screen instructions.

About System Security

This section provides information about keeping your computer operating smoothly and protecting against potential threats to your computer's security.

How can I protect my computer against security threats, such as viruses?

The Microsoft® Windows® operating system is preinstalled on your computer. The best way to protect your computer against security threats, such as viruses, is to download and install the latest Windows updates regularly.

You can get important Windows updates by doing one of the following:

- **The Automatic Updates** feature — This feature automatically searches for and delivers updates directly to your computer whenever you are connected to the Internet.
- **The Windows Updates Web site** — This site enables you to download computer updates without turning on the **Automatic Updates** feature.

Your computer must be connected to the Internet before you can receive updates.

To use the Automatic Updates feature

1. Connect to the Internet.
2. Click the **Automatic Updates** icon in the Taskbar notification area.

   The **Automatic Updates Setup Wizard** appears.
3. Click **Next**, and follow the on-screen instructions to set up automatic or scheduled updates.

To visit the Windows Updates Web site

1. Connect to the Internet.
2. Type http://windowsupdate.microsoft.com/ in the address bar of your browser.

   The **Microsoft Windows Update** and **Security Warning** windows appear.
3. In the **Security Warning** window, click **Yes to install and run Windows Update.**
4. In the **Microsoft Windows Update** window, click **Scan for updates**, and follow the on-screen instructions.

How do I keep my preinstalled antivirus software updated?

You can keep the preinstalled Norton Internet Security software program current with the latest updates from Symantec Corporation.

To download and install the latest security update

1. Double-click the **Norton Internet Security** icon in the Taskbar notification area.

   If you have not previously registered the antivirus software, a series of information wizards appear.

   1. Follow the on-screen instructions to complete each wizard
   2. Double-click the **Norton Internet Security** icon again.

      The **Norton Internet Security** window appears.

   If you have previously registered this antivirus software, the **Norton Internet Security** window automatically appears.

2. Click **Live Update**, located near the top of the window.
3. Follow the on-screen instructions to select and download updates.

About Media Center

The Microsoft® Windows® XP Media Center Edition operating system is not installed on all VAIO Digital Studio® computers. See your online specifications sheet for more information about your computer's configuration.

Why doesn't the REW button on the remote control work when I use My Music?

The REW button does not "rewind" music files. Instead, press Replay on your remote control for a similar function.

About Media Center

The Microsoft® Windows® XP Media Center Edition operating system is not installed on all VAIO Digital Studio® computers. See your online specifications sheet for more information about your computer's configuration.

Why doesn't the REW button on the remote control work when I use My Music?

The REW button does not "rewind" music files. Instead, press Replay on your remote control for a similar function.

Why aren't the song information edits I made using SonicStage software shown in My Music?

If you record a song in OpenMG ATRAC format and make edits, such as title, artist, or genre, using SonicStage software, the changes become visible when the music file is played in My Music. If you make changes to a music file using Media Center, the changes are not visible when played in SonicStage software.

Why do my song information edits revert to the original content when I use My Music?

When you record songs with SonicStage software, and then use Windows® Media Player software to edit the song's information, you may not see your changes when you play the song in My Music. Windows Media Player supports playback of songs recorded in OpenMG (ATRAC3 or ATRAC3+) format, but does not support any edits made to the OpenMG format music files. Use SonicStage software to edit song information for music files that are recorded in OpenMG format.

Why do my optimized music files take so long to appear in My Music?

When you use SonicStage software to optimize music files to ATRAC3 or ATRAC3+ format, it may take a few moments for the music files to be available in My Music. To access these files sooner, start Windows Media Player software first, and then play the song with My Music.

Why do I get the error message, "The input media is invalid" when I try to play an MP3 file in My Music?

If you have added cover art to the MP3 file using SonicStage software, your file may contain an unsynchronized ID3v2 header. Media Center and Windows Media Play software programs cannot support playback of this file.

You can go to Microsoft® and download a patch to resolve this issue[1], as follows:

1. Go to http://support.microsoft.com.
2. Enter **814129** in the **Search the Knowledge Base** text box.
3. Click on the topic, **FIX: Error in Windows Media Player 9 Series When You Play Specific MP3 Files** located in the **Summaries: Search Results** area.
4. Follow the on-screen instructions to download and install the patch.

[1] The location of this information is subject to change or removal without prior notice

Why won't My Music show the albums (playlists) I recorded with SonicStage software?

Playlists (albums) recorded with SonicStage software may not be immediately available in the Media Center Album window. To access these files sooner, start Windows® Media Player software first, and then play the song with My Music.

Why did my Click to DVD software recording session capture television instead of video?

If Media Center starts a scheduled TV recording while you are capturing analog video with Click to DVD® software, the TV programming may be captured instead of the video and the timed recording may fail. Media Center and the analog capture feature of Click to DVD software both require the use a TV tuner/MPEG encoder card and cannot access the card at the same time.

To avoid recording conflicts:

- Do not open Media Center while capturing analog video using Click to DVD or Click to DVD Automatic Mode software.
- Do not schedule a TV recording to start while capturing analog video, using Click to DVD or Click to DVD Automatic Mode software. If a scheduled TV recording is already set, cancel it or postpone the analog recording until the scheduled TV recording has finished.

Why can't I view or record a movie when my computer is connected to an external device, such as a VCR or DVD player, or when I am using an analog input connection?

If you see a blue background in the View window, the movie may be copyright-protected. Your computer is not able to display or record a video or DVD that is copyright-protected by Macrovision or CGMS-A (Copy Generation Management System - Analog). Media Center software does not support recording a movie using analog input from external devices, such as a VCR, DVD player, or Digital video camera.

Why can't I fast forward or rewind a video?

The rewind and fast forward features are not supported by all video formats. Try using the Skip or Replay buttons, which provides a similar function.

How do I use the Media Center software or remote control to adjust my monitor when viewing TV programs?

Media Center software and remote control do not have video adjustment capability. Use the controls on the monitor to adjust video settings, such as contrast, hue, and brightness. See the information provided with your monitor for instructions on adjusting its video controls.

What can I do if my computer freezes and restarts while I'm watching a DVD or live TV?

Verify that the monitor refresh rate is set to 60 Hz, using the following steps:

1. Right-click on the desktop, and click **Properties** from the shortcut menu.

   The **Display Properties** window appears.

2. Click the **Settings** tab, and then click **Advanced**.

3. Click the **Monitor** tab, and in the **Monitor settings** box, confirm the screen refresh rate is set to 60 Hertz.

4. If the refresh rate is not set to 60 Hz, click the drop-down arrow, and select **60 Hertz**.

About Giga Pocket Personal Video Recorder

Certain VAIO® computers are equipped with Giga Pocket® Personal Video Recorder features. This section provides information on troubleshooting for Giga Pocket hardware and software features.

Why can't I see an image or an image that is displayed properly when I am using a VCR?

Some images from an externally-connected video player device or a video game console, may not display or are not displayed correctly. These images include:

- Images from a playback screen that is in pause mode.
- Menu screens of the connected video player device.
- The end of the film roll being played back using the scroll bar.
- Video output from a video game console.
- Video output from a VCR, using a coaxial cable.

Giga Pocket® cannot record or display all video images from this source.

About Giga Pocket Personal Video Recorder

Certain VAIO® computers are equipped with Giga Pocket® Personal Video Recorder features. This section provides information on troubleshooting for Giga Pocket hardware and software features.

Why can't I see an image or an image that is displayed properly when I am using a VCR?

Some images from an externally-connected video player device or a video game console, may not display or are not displayed correctly. These images include:

- Images from a playback screen that is in pause mode.
- Menu screens of the connected video player device.
- The end of the film roll being played back using the scroll bar.
- Video output from a video game console.
- Video output from a VCR, using a coaxial cable.

Giga Pocket® cannot record or display all video images from this source.

Why does my Giga Pocket viewing window or the images played back from a Video Capsule, appear distorted or corrupted?

There are some situations where screen or image distortion may occur, such as:

- When you change the channel on the video player device.
- If there is a damaged section on your video tape.

When using Giga Pocket Personal Video Recorder, set your display settings as follows:

- **Colors** — Use the default factory settings (32-bit).
- **Screen area** — Set your video resolution to 1024 x 768 pixels.

For PCV-W series models

Do not change the default factory settings for color or the screen area. If you use different settings, you may experience poor image quality.

Why does my computer seem to slow down when I play a Video Capsule?

Your computer may respond slower if you try to play back a Video Capsule while recording a TV program with Giga Pocket. During a timer recording, Giga Pocket may interrupt or stop your Video Capsule playback to prioritize your computer's resources for the timer recording. If this occurs, wait until the timer recording session has completed, and then play back the Video Capsule.

Why did I get the error message, "Event buffer of audio overflow?"

The timer recording may fail in certain situations, such as:

- The coaxial cable (input) is disconnected after recording has started.
- The TV channel has lost broadcast signal during the recording session.
- Video content being recorded has poor signal quality.

Why did my on-screen display shift or split?

Your on-screen display may shift or split in rare instances. If this should occur, switch the TV/Recording deck and the playback deck, or try switching the channel. Your timer recording continues even if the on-screen display has shifted or split.

Why can't I create new Video Capsules?

You cannot create new Video Capsules when the remaining free space on your hard disk drive reaches approximately 100 MB. Delete any unnecessary Video Capsules or files to increase the free space on your hard drive.

Why doesn't my mouse work properly?

- Confirm that the mouse is plugged securely into the mouse port. If you are using a USB mouse, verify that the mouse is plugged securely into the appropriate USB port.
- Save and close all open software programs. Turn off your computer, wait approximately 10 seconds, and then restart your computer.
- The mouse driver(s) may not be working properly.

Using an optical mouse

If you are using an optical mouse[1], use an appropriate surface to ensure proper mouse tracking. A good surface requires a certain amount of detail or texture to enable mouse tracking.

- Use surfaces such as plain paper, card stock, or fabric that do not have a lot of repetitive patterning.
- Avoid surfaces such as mirrors, smooth glass, or magazines.
- Avoid possible damage to easily-scratched surfaces by using a mouse pad.
- Avoid surfaces that may damage or soil your optical mouse. Dirt or damage may cause the mouse to malfunction.
- If the cursor is not moving properly, try using the mouse on another surface or using a mouse pad.

Using a standard ball mouse

If you are using a standard ball mouse, there may be dust or dirt inside the mouse mechanism. To clean the mouse, follow these steps:

1. Save and close all software programs, and turn off your computer.
2. Turn the mouse upside down.
3. Remove the mouse ball cover on the back of the mouse by turning clockwise the ring that covers the mouse ball.
4. Turn the mouse upright, and drop the mouse ball into your hand.
5. Using a piece of tape, remove any dust or dirt on the mouse ball and inside the mouse ball socket.
6. Return the mouse ball to the socket, and replace the mouse ball cover. Secure the cover by turning the ring counter-clockwise.

Using a wireless optical mouse

If you are using a wireless optical mouse:

- Confirm that the supplied AA batteries are properly installed.
- Press the **CONNECT** button on the mouse and the computer to reestablish the connection between the two devices.
- Verify the infrared receiver on the computer's front panel is free of obstructions that may prevent proper operation.
- Avoid using radio-controlled toys or equipment, CB radios, and other wireless devices in the area near your wireless mouse. These devices may cause interference, causing your mouse to stop working properly.
- Do not place metal furniture near your computer or wireless mouse, as this may create interference, causing your mouse to stop working properly.

[1] For wireless or standard optical mice.

Why doesn't my mouse work properly?

- Confirm that the mouse is plugged securely into the mouse port. If you are using a USB mouse, verify that the mouse is plugged securely into the appropriate USB port.
- Save and close all open software programs. Turn off your computer, wait approximately 10 seconds, and then restart your computer.
- The mouse driver(s) may not be working properly.

Using an optical mouse

If you are using an optical mouse[1], use an appropriate surface to ensure proper mouse tracking. A good surface requires a certain amount of detail or texture to enable mouse tracking.

- Use surfaces such as plain paper, card stock, or fabric that do not have a lot of repetitive patterning.
- Avoid surfaces such as mirrors, smooth glass, or magazines.
- Avoid possible damage to easily-scratched surfaces by using a mouse pad.
- Avoid surfaces that may damage or soil your optical mouse. Dirt or damage may cause the mouse to malfunction.
- If the cursor is not moving properly, try using the mouse on another surface or using a mouse pad.

Using a standard ball mouse

If you are using a standard ball mouse, there may be dust or dirt inside the mouse mechanism. To clean the mouse, follow these steps:

1. Save and close all software programs, and turn off your computer.
2. Turn the mouse upside down.
3. Remove the mouse ball cover on the back of the mouse by turning clockwise the ring that covers the mouse ball.
4. Turn the mouse upright, and drop the mouse ball into your hand.
5. Using a piece of tape, remove any dust or dirt on the mouse ball and inside the mouse ball socket.
6. Return the mouse ball to the socket, and replace the mouse ball cover. Secure the cover by turning the ring counter-clockwise.

Using a wireless optical mouse

If you are using a wireless optical mouse:

- Confirm that the supplied AA batteries are properly installed.
- Press the **CONNECT** button on the mouse and the computer to reestablish the connection between the two devices.
- Verify the infrared receiver on the computer's front panel is free of obstructions that may prevent proper operation.
- Avoid using radio-controlled toys or equipment, CB radios, and other wireless devices in the area near your wireless mouse. These devices may cause interference, causing your mouse to stop working properly.
- Do not place metal furniture near your computer or wireless mouse, as this may create interference, causing your mouse to stop working properly.

[1] For wireless or standard optical mice.

How do I set up my mouse for left-hand use?

1. Click **Start** in the Windows taskbar, then click **Control Panel**.
2. Click **Printers and Other Hardware**, then click **Mouse**. The **Mouse Properties** dialog box appears.
3. From the **Buttons** tab, select **Switch primary and secondary buttons** under the **Button Configuration** options.
4. Click **Apply**, then click **OK**.

Why doesn't my keyboard work properly?

- Check that the keyboard[1] is securely plugged into the keyboard port.
- Save and close all open software programs. Turn off your computer, wait approximately 10 seconds, and then restart your computer.
- If you are using a wireless keyboard:
  - Confirm that the supplied AA batteries are properly installed. For proper installation of the AA batteries, see the documentation supplied with your equipment.
  - Press the **CONNECT** button on the keyboard to reestablish the connection between the two devices.
  - Verify the infrared receiver on the computer's front panel is free of obstructions that may prevent proper operation.
  - Avoid using radio-controlled toys or equipment, CB radios, and other wireless devices in the area near your wireless keyboard. These devices may cause interference, causing your keyboard to stop working properly.
  - Do not place metal furniture near your computer or wireless keyboard, as this may create interference, causing your keyboard to stop working properly.

[1] The VAIO "W" series computer has a built-in keyboard.

Why is my modem connection slow?

Many factors can influence modem connection speed, such as:

- Telephone line noise.
- Incompatibility with other telephone equipment such as fax machines or other modems.
- Internet Service Providers (ISP) connection capability may vary.

If you think your modem is not connecting properly to other PC-based modems, fax machines, or your ISP, check the following:

- Contact your telephone company and ask them to verify that your telephone line is free from line noise.
- If your problem is fax-related, check that there are no problems with the fax machine you are calling and that it is compatible with fax modems.
- For optimum performance, verify that your ISP point of presence (POP) telephone number is compliant with V.90 standards.
- If you are having a problem connecting with your ISP, check that they are not experiencing technical problems.
- Try connecting your modem through another telephone line, if available.

Why is my modem connection slow?

Many factors can influence modem connection speed, such as:

- Telephone line noise.
- Incompatibility with other telephone equipment such as fax machines or other modems.
- Internet Service Providers (ISP) connection capability may vary.

If you think your modem is not connecting properly to other PC-based modems, fax machines, or your ISP, check the following:

- Contact your telephone company and ask them to verify that your telephone line is free from line noise.
- If your problem is fax-related, check that there are no problems with the fax machine you are calling and that it is compatible with fax modems.
- For optimum performance, verify that your ISP point of presence (POP) telephone number is compliant with V.90 standards.
- If you are having a problem connecting with your ISP, check that they are not experiencing technical problems.
- Try connecting your modem through another telephone line, if available.

Why doesn't my modem work properly?

Your modem may be experiencing equipment or software conflicts. If your modem is not functioning properly, check the following:

- Check that the telephone line is properly plugged into the modem line jack.
- Check that the telephone line is working properly. You can verify the line by plugging in an external device such as a standard telephone or fax machine and listening for a dial tone.
- Check that the access telephone number (POP) is correct.
- All software programs that are preinstalled by Sony are compatible with your computer's modem. If you have installed other software, contact the software publisher for information on how to configure the software in order to recognize the modem.
- If it appears that your modem is not functioning properly, check the device status.

    1. Click **Start** in the Windows taskbar, then click **Control Panel**.
    2. Click **Printers and Other Hardware** and then select **Phone and Modem Options**.
    3. From the **Modems** tab, click to select your modem.
    4. Click **Properties**. The **Modem Properties** window appears.
    5. Review the information in the **Device status** section. If your modem is not working properly, click the **Troubleshoot** button. The **Help and Support Center** window appears.
    6. Follow the on-screen instructions to resolve the problem.

- The modem driver(s) may not be working properly.

How do I change my modem to rotary or touch-tone dialing?

1. Click **Start** in the Windows taskbar, then click **Control Panel**.
2. Click **Printers and Other Hardware**, then click **Phone and Modem options**.
3. From the **Dialing Rules** tab, click **Edit**. The **Edit Location** dialog box appears.
4. Select the **Tone** or **Pulse** option. Click **OK**.

How do I set up a dial-up connection?

After you have connected your computer's modem to a telephone wall jack, follow these steps to set up your dial-up connection to the Internet:

1. Click **Start** from the Windows taskbar and select **All Programs**.
2. Point to **Accessories**, point to **Communications**, and then click **New Connection Wizard**. The **New Connection Wizard** appears.

   ✍ The **Location Information** and the **Phone and Modem Options** windows appear, when using your computer for the first time. Enter your information as requested and continue to the **New Connection Wizard** window.

3. Follow the on-screen instructions to finish setting up your dial-up connection.

About the Speakers

Why is there no sound in any software program?

- Check that the speakers are plugged into the Headphones jack.
- If your speakers have a mute button, verify that it is turned off.
- If your speakers are powered by batteries, verify that the batteries are inserted properly and that they are charged.
- If your speakers use an external power source, verify that the power cord is plugged into a grounded wall outlet or power strip.
- If your speakers have volume control, check the volume level.
- You may not hear sound from your speakers if headphones are connected to your computer.
- If the software program you are using has its own volume control, check that the volume is turned up.
- Check the volume controls in the Windows® operating system using these steps:

  1. Click **Start** in the Windows taskbar, then select **Control Panel**.
  2. Select **Sounds, Speech, and Audio Devices**, then click **Adjust the system volume**.
  3. From the **Volume** tab, adjust the Device volume by moving the slider bar to the desired sound level. Verify that the **Mute** option is not selected.

- Check that the **Mute** check box is not selected in the **Volume Control** window.
- The sound driver(s) may not be working properly.

About the Speakers

Why is there no sound in any software program?

- Check that the speakers are plugged into the Headphones jack.
- If your speakers have a mute button, verify that it is turned off.
- If your speakers are powered by batteries, verify that the batteries are inserted properly and that they are charged.
- If your speakers use an external power source, verify that the power cord is plugged into a grounded wall outlet or power strip.
- If your speakers have volume control, check the volume level.
- You may not hear sound from your speakers if headphones are connected to your computer.
- If the software program you are using has its own volume control, check that the volume is turned up.
- Check the volume controls in the Windows® operating system using these steps:

    1. Click **Start** in the Windows taskbar, then select **Control Panel**.
    2. Select **Sounds, Speech, and Audio Devices**, then click **Adjust the system volume**.
    3. From the **Volume** tab, adjust the Device volume by moving the slider bar to the desired sound level. Verify that the **Mute** option is not selected.

- Check that the **Mute** check box is not selected in the **Volume Control** window.
- The sound driver(s) may not be working properly.

Why is the S/PDIF option disabled in the Microsoft® Windows® XP Media Center software program?

S/PDIF is enabled in Media Center[1] by changing the DVD settings. This feature is disabled because the appropriate output setting is not selected in the InterVideo® WinDVD® software program's audio setup.

To change audio settings in the WinDVD software program

1. Click **Start** in the Windows® taskbar, and point to **All Programs**.
2. Point to **InterVideo WindDVD 5**, and the click on **InterVideo WinDVD 5 for VAIO**.

   The **InterVideo WinDVD for VAIO** window opens.
3. Right-click in the **WinDVD** window.

   A shortcut menu appears.
4. Click **Setup...**, to view the **Setup** dialog box.
5. Select the **Audio** tab.
6. From the section, **Audio Speaker Configuration**, select **6-channel speaker (5.1 Home Theater)** or the desired speaker configuration.

   To enable S/PDIF, go to **Audio Output Configuration** and select **Digital (S/PDIF) out to External Processor**.
7. Click **Apply**, and then click **OK**.

InterVideo® software automatically detects the type of speaker system. You may notice that some options are disabled or are not available.

[1] The Microsoft Windows XP Media Center Edition operating system is installed on certain VAIO® computers. See your specifications sheet for details on your computer's configuration.

Why can't I hear dialogue during DVD movie playback, using my 5.1 channel[1] speaker system?

- Verify that your speaker system is connected correctly.
- Change the computer's audio settings to 6-channel, to match your 5.1 speaker system.
  - Change the audio settings in the RealTek® Sound Effect Manager software program.
  - Change the audio settings in the InterVideo® WinDVD® software program.
  - Change the audio settings in the Media Center software program's DVD settings.

[1] Your computer's supplied accessories may not include a 5.1 channel speaker system. See your specifications sheet for details on your computer's supplied accessories.

About Using a Microphone

Why doesn't my microphone work properly?

Check that the microphone is plugged into the Microphone jack.

About Using a Microphone

Why doesn't my microphone work properly?

Check that the microphone is plugged into the Microphone jack.

Why is my microphone so sensitive to background noise?

If you find there is too much background noise when you record sound, you should adjust the microphone by following these steps:

1. Click **Start** in the Windows taskbar, then click **Control Panel**.
2. Click **Sounds, Speech, and Audio Devices**, then click **Sounds and Audio Devices**.
3. From the **Audio** tab, locate the **Sound recording** section and click **Volume**. The **Recording Control** dialog box appears.

   If the volume control for the microphone is visible, skip to step 6.
4. Select the **Options** menu and click **Properties**. The **Properties** dialog box appears.
5. In the section, **Show the following volume controls**, click to select the **Microphone** check box. Click **OK**.
6. From the **Recording Control** dialog box, decrease the microphone volume level by moving the slider bar down.
7. Close the **Recording Control** dialog box and then close the **Sounds and Audio Devices Properties** window.

How do I install a printer?

- Connect your USB or IEEE 1394 printer to the appropriate port on your computer's front, back or side panels[1]. If your printer has a USB, IEEE 1394, or infrared connection, contact the printer manufacturer for information or updates that may be required for proper installation.
- Check the printer manufacturer's Web site for the latest drivers for your operating system before proceeding with installation. Some printers do not function properly without the updated drivers for specific operating systems.
- To install your printer, follow these steps:

  1. Click **Start** in the Windows taskbar, then click **Control Panel**.
  2. Click **Printers and Other Hardware**, then click **Add a Printer**.

     The **Add Printer Wizard** appears.
  3. From the **Add Printer Wizard**, click **Next**.
  4. Select **Local Printer**, then click **Next**.

     Place a check mark in the box, **Automatically detect and install my Plug and Play printer**, if you are installing a recently manufactured printer equipped with Plug and Play capability.
  5. Select the appropriate port, usually LPT1 if using the parallel port, and then click **Next**.
  6. Select the appropriate printer manufacturer and model.
  7. Follow the on-screen instructions to print a test page and complete printer installation.

- If the printer is not included in the list, but the printer manufacturer provides a disk with the appropriate Windows XP Printer driver:

  1. Choose **Have Disk**.
  2. Enter the appropriate path for the disk or CD, and click **OK**.

- If the printer is not included in the list, and no drivers are provided with the printer:

  1. Select a similar printer that your printer may emulate.
  2. Refer to the user manual or guide supplied with your printer.
  3. Visit the printer manufacturer's Web site for technical support.

[1] The location of the connection ports for peripheral equipment may vary, depending upon your computer's hardware configuration.

How do I install a printer?

- Connect your USB or IEEE 1394 printer to the appropriate port on your computer's front, back or side panels[1]. If your printer has a USB, IEEE 1394, or infrared connection, contact the printer manufacturer for information or updates that may be required for proper installation.
- Check the printer manufacturer's Web site for the latest drivers for your operating system before proceeding with installation. Some printers do not function properly without the updated drivers for specific operating systems.
- To install your printer, follow these steps:

  1. Click **Start** in the Windows taskbar, then click **Control Panel**.
  2. Click **Printers and Other Hardware**, then click **Add a Printer**.

     The **Add Printer Wizard** appears.
  3. From the **Add Printer Wizard**, click **Next**.
  4. Select **Local Printer**, then click **Next**.

     Place a check mark in the box, **Automatically detect and install my Plug and Play printer**, if you are installing a recently manufactured printer equipped with Plug and Play capability.
  5. Select the appropriate port, usually LPT1 if using the parallel port, and then click **Next**.
  6. Select the appropriate printer manufacturer and model.
  7. Follow the on-screen instructions to print a test page and complete printer installation.

- If the printer is not included in the list, but the printer manufacturer provides a disk with the appropriate Windows XP Printer driver:

  1. Choose **Have Disk**.
  2. Enter the appropriate path for the disk or CD, and click **OK**.

- If the printer is not included in the list, and no drivers are provided with the printer:

  1. Select a similar printer that your printer may emulate.
  2. Refer to the user manual or guide supplied with your printer.
  3. Visit the printer manufacturer's Web site for technical support.

[1] The location of the connection ports for peripheral equipment may vary, depending upon your computer's hardware configuration.

The connected printer does not function properly when the computer resumes from a power saving mode.

- Clear the printer memory by turning the printer off for approximately 10 seconds, and then turning it back on.
- If your printer does not resume normal operations, try restarting your computer.

Notes On Use

The information in this section provides basic procedures for handling your computer and common peripheral devices, and using storage media.

- About the Power Source
- About Handling the Computer
- About Using Giga Pocket Personal Video Recorder
- About Handling a Monitor (Display)
- About Disposing of the Lithium Battery
- About Recording and Data Storage Media

About the Power Source

Before opening your computer, turn the computer off and let it cool down for 10 minutes. This protects you against internal components that may be too hot to handle.

- Your computer operates on 100-120 V AC 50/60 Hz only.
- Plug all the power cords for your computer and its peripheral equipment into the same AC supply line. AC derived from different supply lines may result in voltage differences that can cause unstable operation or unwanted weak currents at the time of connection.
- Do not share the AC outlet with any other power-consuming equipment, such as copying machines or shredders.
- You can purchase a power strip with a surge protector. This device prevents damage to your computer caused by sudden power surges such as those that may occur during an electrical storm.
- If you live in an area that experiences frequent power fluctuations, you may want to purchase an Uninterruptible Power Supply (UPS). This device contains both a surge protector and a battery backup. The surge protector prevents damage to your computer caused by power surges. The battery backup safeguards your data during a brief period of power loss.
- The power control button on the front panel does not turn off the AC power. To remove power from the computer, you must turn it off and then unplug the AC power cord from the wall outlet or power strip.
- Do not place heavy objects on the power cord.
- Do not operate the computer with the cover removed. Always reinstall the cover before turning it on.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- Unplug your computer from the wall outlet if you do not intend to use the computer for a long time.
- Do not attempt to open the power supply. There are no user-serviceable parts in the power supply. To avoid personal injury or damage to your equipment, refer the repair or replacement of the power supply to qualified personnel only.

About Handling the Computer

Your computer uses high-frequency radio signals and may cause interference to radio or TV reception. If this occurs, relocate the computer a suitable distance away from the TV or radio equipment.

- Do not place your Sony computer in a location subject to:
  - Heat sources, such as radiators or air ducts
  - Direct sunlight
  - Excessive dust
  - Mechanical vibration or shock
  - Strong magnets or speakers that are not magnetically shielded
  - Ambient temperature of more than 95ºF (35ºC) or less than 50ºF (10ºC)
  - High humidity, moisture, or rain
- Do not place electronic equipment near your computer. The computer's electromagnetic field may cause a malfunction.
- Provide adequate air circulation to prevent internal heat build-up. Do not place your computer on loose surfaces (such as rugs or blankets) or near materials (such as curtains or draperies) that may block its ventilation slots. Leave a space of at least 8 inches from the back panel of your computer.
- Clean the cabinet with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as it may damage the finish of your Sony computer.
- Should any solid object or liquid fall into the cabinet, keyboard, or mouse, shut down your computer and then unplug it. You may want to have the computer checked by qualified personnel before operating it any further.
- Use only specified peripheral equipment and interface cables; otherwise, problems may result.
- Do not use cut or damaged connection cables.
- Always switch the power off before connecting your computer to peripheral equipment; otherwise, damage may occur to the integrated circuits in your computer.
- Your computer, keyboard, and mouse consist of high-precision electronic parts. Do not drop them or bump them against other objects.
- Your Sony computer does not work with party lines, cannot be connected to a coin-operated telephone, and may not work with multiple telephone lines or a private branch exchange (PBX).
- If the telephone company makes a service call to your home or office and determines that your computer is responsible for the problem, the telephone company may bill you for the service call. If you do not disconnect your computer when it is adversely affecting the telephone line, the telephone company has the right to disconnect your service until you correct the problem.

Moisture condensation

If your computer is brought directly from a cold location to a warm one, moisture may condense inside your computer. In this case, allow at least an hour before turning on your computer. If any problem occurs, unplug your computer, and contact your Sony Service Center.

Wireless devices

Wireless devices, such as a wireless keyboard or mouse, requires unobstructed communication with your computer for proper operation.

- Do not exceed a maximum distance of 2 feet between your VAIO® computer and your wireless device.
- Verify that any infrared receiver(s) on the computer or wireless device is free of obstructions that may prevent proper operation.
- Confirm that the supplied AA batteries are properly installed in the wireless device.

- Use the **CONNECT** buttons on the wireless device and your computer, if available, to establish communication between the equipment.

- Avoid using radio-controlled toys or equipment, CB radios, and other wireless devices in the area near your wireless keyboard. These other devices may cause interference, causing your wireless keyboard or mouse to stop working properly.

- Do not place metal furniture near your computer or wireless device, as this may create interference, causing your wireless device to stop working properly.

The hard disk drive

- Do not place the computer in a location that is subject to vibration or shock.

- Do not move the computer during operation.

- Do not subject the computer to sudden changes in temperature.

- Do not turn off the power while the computer is accessing the hard disk drive.

Optical mouse

An optical mouse requires an ideal surface texture in order to provide precision pointing and tracking.

- Use surfaces such as plain paper, card stock, or fabric that have minimal repetitive patterning.

- Avoid surfaces such as mirrors, smooth glass, or magazines that have halftone printing.

About Using Giga Pocket Personal Video Recorder

Certain VAIO® computers are equipped with Giga Pocket® Personal Video Recorder features. This section provides information on using the Giga Pocket hardware and software features.

Display setup

Verify your display's settings before using Giga Pocket Personal Video Recorder:

- Color quality: Use factory default settings (32-bit).
- Screen resolution: Set to 1024 x 768 pixels. Using other display settings may cause an improper screen image or an incorrect recording by Giga Pocket software.

  Some displays may require the screen resolution to be set to 1280 x 1024 pixels. For information on your display's setting requirement, see the instructions supplied with your display.
- Check your display setup in the Microsoft® Windows® operating system before starting up Giga Pocket software. For more information, refer to the monitor's operating manual.
- Do not change the display setup while Giga Pocket is running, or your computer may operate improperly.

Hard disk drive

- When the available free space on your hard disk approaches 100 MB, you are not able to create a new Video Capsule. Delete unnecessary Video Capsules or files in order to increase available space on your hard disk drive.
- If you directly delete, move, or rename a file in the default Giga Pocket folder, Giga Pocket Personal Video Recorder features may not work properly.

Network

Microsoft® Windows® XP operating system supports a single Giga Pocket user at any given time.

If a different user logs on using the Fast Switch Feature:

- Giga Pocket is not available to other user accounts. For more information, see Giga Pocket Help.
- The Timer Recording feature is not available to other user accounts. The Timer Recording Manager icon appears in the taskbar notification area for the first user.

About Handling a Monitor (Display)

- DVD playback and certain video-related software may not function correctly when your monitor is set to a high refresh rate. If your monitor does not play back video content properly, try setting the display to a lower refresh rate.
- Do not place the display near a strong magnetic force.
- Do not block the ventilation slots on the display.
- Using the computer in low temperature conditions may produce a residual image on the screen. This is not a malfunction. When the computer returns to normal temperature, the screen returns to normal.
- A residual image may appear on the screen if the same image is displayed for a lengthy period of time. The image disappears after a period of time. You can use a screen saver to prevent residual images.
- The screen becomes warm during operation. This is normal and does not indicate a malfunction.

About handling an LCD monitor[1] (display)

- Do not place the display near a strong magnetic force.
- Do not block the ventilation slots on the display.
- Using the computer in low temperature conditions may produce a residual image on the screen. This is not a malfunction. When the computer returns to normal temperature, the screen returns to normal.
- A residual image may appear on the screen if the same image is displayed for a lengthy period of time. The image disappears after a period of time. You can use a screen saver to prevent residual images.
- The screen becomes warm during operation. This is normal and does not indicate a malfunction.
- Do not leave the LCD in direct sunlight, as this may damage the screen. Use caution when using the computer near a window.
- Do not exert pressure on the LCD or scratch the surface, as this may cause the screen to malfunction.
- The LCD screen is manufactured using high-precision technology. On occasion, you may see tiny black or colored points on the LCD. This is normal and does not indicate a malfunction.
- Avoid rubbing the screen, as this can damage the LCD. Use a soft, dry cloth to clean the display.

[1] The PCV-W and PCV-V series models have a built-in LCD monitor.

About Disposing of the Lithium Battery

Dispose of the lithium battery properly. In some areas, the disposal of lithium batteries in household or business trash may be prohibited. You can return your unwanted lithium batteries to your nearest Sony Service Center or Factory Service Center. For the Sony Service Center nearest you, visit the Sony online support Web site at http://www.sony.com/pcsupport .

Do not handle damaged or leaking lithium batteries. The lithium battery may explode if mistreated. Do not disassemble it or dispose of it in fire.

Replace the battery with a Sony CR2032 lithium battery. Using a type of battery other than a CR2032 may present a risk of fire or explosion.

About Recording and Data Storage Media

Handling CD or DVD media

- Do not touch the surface of the disc.
- Do not drop or bend the disc.
- Do not use adhesive labels to identify the disc. The label may come off while the disc is in use in the optical drive and damage the drive.

Cleaning CD or DVD media

- Fingerprints and dust on the surface of a disc may cause read errors. Proper care of the disc is essential to maintain its integrity. Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray, as they may cause damage to the disc.
- For normal cleaning, hold the disc by its edge and use a soft cloth to wipe the surface from the center out.
- If the disc is badly soiled, moisten a soft cloth with water, wring it out well, and use it to wipe the surface of the disc from the center out. Wipe off any remaining moisture with a dry soft cloth.

Using Memory Stick media

- MagicGate Memory Stick and Memory Stick PRO media are the only media that support MagicGate technology. Currently, Sony® SonicStage and OpenMG software are not compatible with the new Memory Stick PRO media. Sony suggests using only the MagicGate Memory Stick media to store and transfer any data created with SonicStage and OpenMG software.
- VAIO® computers may not support all of the high-speed data transfer or access control features of the new Memory Stick PRO media. You can use the new Memory Stick PRO media as you would use a standard Memory Stick® media.
- Visit the Sony online support Web site at http://www.sony.com/pcsupport regularly for the latest information on the new Memory Stick PRO media.

Using memory cards

Certain VAIO® computers support CompactFlash®, MultiMediaCard (MMC), Microdrive , xD-PictureCards and Secure Digital (SD) media cards. See your computer's specifications sheet at http://www.sony.com/pcsupport, for more information about your computer's media card slot configuration. Visit the Sony online support Web site regularly for the latest information on compatible memory cards.

- Always insert the correct media card into the appropriate media slot.
- Do not attempt to insert a different media card or adapter into a slot that is not designed to accept it. An incompatible media card or adapter may be difficult to remove from the slot and can damage your computer.

Handling floppy disks[1]

- Do not open the shutter manually and touch the surface of the floppy disk.
- Keep floppy disks away from magnets.
- Keep floppy disks away from direct sunlight and other heat sources.

[1] Certain VAIO computers are not equipped with a floppy disk drive. You can purchase a floppy disk drive separately. See the online specifications sheet for more information about your computer's hardware configuration.

Support Options

Sony provides several options to help solve common problems or to locate support for your VAIO® computer. This section describes all available resources and offers suggestions on how to access this information for maximum results.

- Immediate Help and Support
- Software Help and Support
- Resources for Additional Help and Support

Immediate Help and Support

You can locate helpful information immediately by consulting your hard copy guides and supplements, or by accessing the online Computer User Guide and individual software Help files.

Your computer is supplied with these support options:

- **VAIO® Computer Quick Start —** The Quick Start contains information on how to set up your computer quickly and easily. You can find instructions on how to connect power cords, cables, peripheral devices, and register your computer with Sony®. The Quick Start can also provide basic troubleshooting support.
- **About RAID Systems** — Contains an overview of RAID-0 and RAID-1 levels, along with simple instructions on RAID configuration. This guide is available only with configure-to-order (CTO) computers that are shipped as RAID-0 or RAID-ready.
- **VAIO® Recovery Options Guide** — Provides information about restoring individual software programs, software drivers, drive partition(s), or your entire hard disk drive to the original factory installed settings.
- **VAIO® Computer User Guide —** The online User Guide provides information about configuring, maintaining, and upgrading your computer. This support resource offers a variety of available topics, enabling you to quickly view specific information using context-sensitive search features. To access the online guide:

  1. Click **Start** in the Windows® taskbar, then click **Help and Support**.
  2. From the **VAIO Help And Support Center** menu, click **VAIO User Guide**.

- **Specifications** — The online specifications sheet describes the hardware and software configuration of your VAIO computer. To view the online specifications sheet:

  1. Connect to the Internet.
  2. Go to the Sony online support Web site at *http://www.sony.com/pcsupport*.
  3. Click the **Documentation button** and follow the on-screen instructions to locate your model's specifications sheet.
  4. **Preinstalled software Help files —** Each preinstalled software program provides online Help within the software, that describes the software's features. In these Help files, you can find tutorials that teach you to use the software and locate troubleshooting support, should problems occur. To access software Help files:

     1. Click **Start** in the Windows taskbar and point to **All Programs**. A submenu appears, listing all preinstalled software programs.
     2. Click the desired software program.[1] The software's main window appears.
     3. From the menu bar, click **Help**. The software program's **Help** appears.

  5. **VAIO Software** — This feature provides specific information on preinstalled software on your computer.

     To access this online software information

     1. Click **Start** in the Windows taskbar.
     2. Click **Welcome to VAIO life**.

[1] You can locate the online Help for Sony® software programs by pointing to the individual software program's icon and selecting Help from the submenu.

Software Help and Support

Support information for the preinstalled software on your computer is located in this section. Sony software support is free of charge for 90 days after the original date of purchase.

Your computer may not be supplied with all of the software discussed in this section, depending on the computer purchased. To view information about the specific software preinstalled on your computer, see the software program's online Help.

Adobe® Photoshop® Elements, Photoshop® Album, Premiere®, Reader®
Adobe Systems, Inc.

Web site http://www.adobe.com

telephone 800-685-3652

hours M - F, 6 AM - 5 PM PST

America Online® (Broadband or Dial-Up)
America Online, Inc.

Web site http://www.aol.com

Click to DVD
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

CLIÉ Converter
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

DVgate Plus
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

Giga Pocket® Personal Video Recorder
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

Microsoft® Internet Explorer
Microsoft Corp.

Web site http://www.support.microsoft.com

Microsoft® Windows Media® Player
Microsoft Corp.

Web site http://www.support.microsoft.com

Microsoft® Windows® Movie Maker
Microsoft Corp.

Web site http://www.support.microsoft.com

Microsoft® Works
Microsoft Corp.

Web site http://www.support.microsoft.com

MoodLogic
MoodLogic, Inc.

Web site http://www.moodlogic.com/support

e-mail help@moodlogic.com

Norton Internet Security (90 day trial version)
Symantec Corp.

Web site http://www.symantec.com/techsupp

PictureGear Studio
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

Quicken® New User Edition
Intuit Inc.

Web site http://www.intuit.com/support

telephone 900-555-4932; 800-644-3193[1]

[1] Intuit Inc. Software: Support from 900-555-4932 is fee-based. Support from 800-644-3193 is automated and free of charge.

Sonic RecordNow!®
Sonic Solutions

Web site http://support.sonic.com

SonicStage
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

SonicStage Mastering Studio
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

Sony® VAIO® Product Registration
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

VAIO Media
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

VAIO Music Services
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

VAIO Update
Sony Electronics Inc.

Web site http://www.sony.com/pcsupport

telephone 888-4-SONY-PC (888-476-6972)

hours 7 days a week, 24 hours a day

WinDVD® for VAIO®
InterVideo, Inc.

Web site	http://www.intervideo.com/jsp/Support.jsp
telephone	510-651-0888

Resources for Additional Help and Support

If the information provided with your VAIO® computer does not offer an immediate solution, or you would like to get direct support, try these additional help and support resources.

Sony online support Web site

Online help and support are available 24 hours a day, seven days a week, when you visit the Sony online support Web site. You can access the Web site at http://www.sony.com/pcsupport.

The Sony online support Web site provides:

- Information about your specific computer model, such as
  - hardware and software specifications.
  - safety and legal information.
  - quick solutions to common problems.
- An automated tutorial library that contains interactive, easy-to-understand lessons on using your computer's hardware and software features.
- Links that enable you to:
  - quickly find the nearest Sony service center locations.
  - arrange for repairs or check repair status.
  - review warranty information.
  - e-mail your question or comments to the Sony Customer Information Services Center.
  - check pricing and availability for products, accessories and parts, as well as purchase online.
  - access the Sony Solutions Knowledge Base, a database that contains answers to many frequently asked questions.

Sony Customer Information Services Center

If other support options do not resolve your issue, you can contact a Sony Support representative directly.

Before making a call to the Sony Customer Information Services Center, have this basic information readily available.

1. VAIO® computer type.
2. Model number.
3. Serial number[1].

   Example:

4. Operating system.
5. Hardware feature or software program that has a problem. (See the online *VAIO® Computer User Guide* for the appropriate software technical support information.)
6. Brief description of the issue.

For VAIO® computers purchased in the U.S. and Canada, contact a Sony Support representative at 1-888-476-6972.

[1] The serial number is located on the back panel of your computer. The serial number is on a white barcode label.